



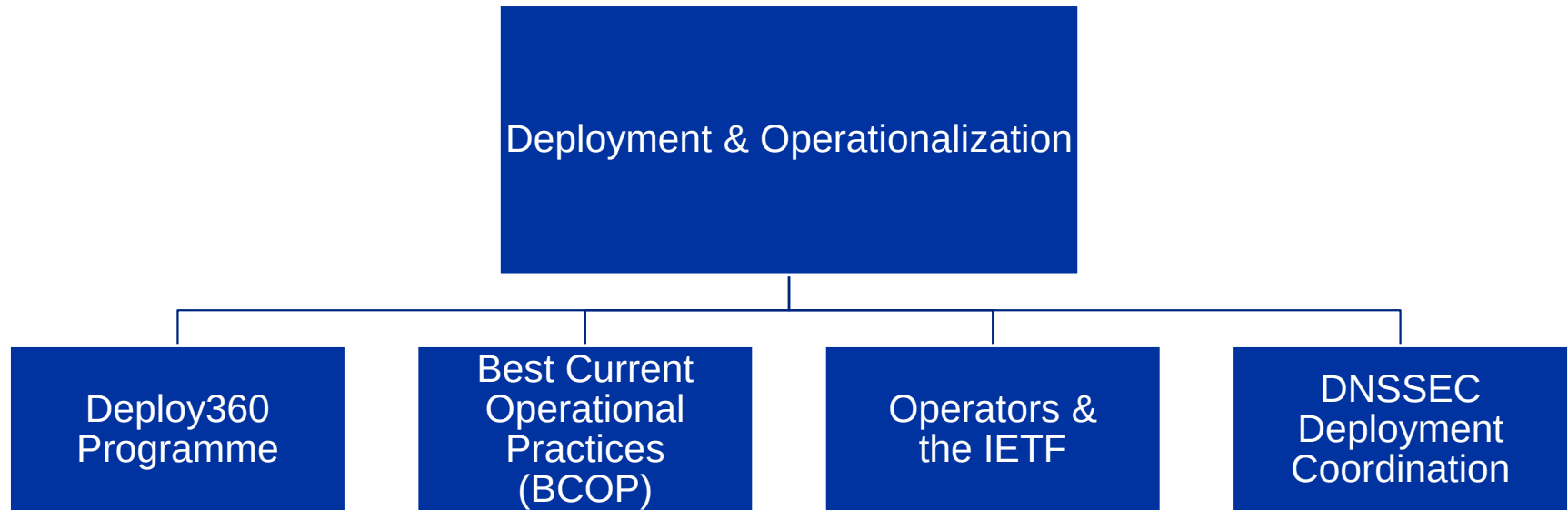
Deployment & Operationalization:
Deploy360, Best Current Operational Practices,
Operators & the IETF

The Deployment & Operationalization Team

- **Chris Grundemann**, Director, Deployment & Operationalization
- **Dan York**, Senior Content Strategist
- **Megan Kruse**, Technology Outreach Manager
- **Jan Žorž**, Operational Engagement Programme Manager



Deployment & Operationalization Projects



The Deploy360 Programme

About Deploy360

The Challenge:

- The IETF creates protocols based on open standards, but some are not widely known or deployed
- People seeking to implement these protocols are confused by a lack of clear, concise deployment information

The Deploy360 Solution:

- Provide hands-on information on IPv6, DNSSEC, TLS for applications, Securing BGP, and Anti-spoofing to advance real-world deployment
- Work with first adopters to collect and create technical resources and distribute these resources to fast following networks

Deploy360 Components

Web Portal

(Online Knowledge Repository)

- Technical documents
- Audience-specific information
- Blogs & social media

Social Media

(Constant Audience Engagement)

- Twitter
- Facebook
- Google+
- YouTube
- RSS Feeds

Speaking Engagements

(Come Meet Us or Invite Us to Speak)

- IPv6 Summits
- Interop Events
- Network Operators' Groups

ION Conferences

(Hands-on Educational Events)

- Chile
- Djibouti
- Canada
- Singapore
- Sri Lanka

Web Portal – www.internetsociety.org/deploy360

IPv6, DNSSEC, Securing BGP, TLS for Applications, Anti-spoofing knowledge base including tutorials, case studies, training resources, etc.

Content specific to:

- Network Operators
- Developers
- Content Providers
- Consumer Electronics Manufacturers
- Enterprise Customers

Blog posts

Social media integration



Social Media Channels



<https://twitter.com/deploy360>



<https://www.facebook.com/Deploy360>



<http://gplus.to/deploy360>



<http://www.youtube.com/user/Deploy360>



<http://www.internetsociety.org/deploy360/feed/>



<http://soundcloud.com/deploy360/>

Speaking Engagements (External Events)

Network Operator Groups

Consumer Electronics Show

North American IPv6 Task Force

**Large Installation Systems Administration
(LISA) Conference**

Interop

Broadband World Forum

IPv6 Webinars

ION Conferences



**3-4 events per year, co-located
with a diverse set of events in varying locations**

Next Event: San Francisco Bay Area, September 2015

Recent Events:

- ION Trinidad and Tobago, 5 February 2015
- ION Sri Lanka, 18 January 2015
- ION Tokyo, 17 November 2014

**Past events in Chile, Ireland, Djibouti, Brazil, Canada,
India, Singapore, and more ...**

**Future events information announced at
<http://www.internetsociety.org/deploy360/ion/>**



Next Steps

Adding more content

- Clearly defined content growth using published roadmaps for IPv6, DNSSEC, Securing BGP, and TLS for applications
- Actively engaged with industry professionals to curate or create deployment content

Adding features based on audience feedback (including yours!)

Adding information in multiple languages

Increasing blogging and social media efforts

Your Participation

Visit and explore

<http://www.internetsociety.org/deploy360>

Create Content

- Help us develop materials based on your experiences
- We will credit your work

Define New Features

- Tell us what you need to get started on your own deployment
- We have the flexibility to make changes/additions

Contact us: deploy360@isoc.org

Best Current Operational Practices (BCOP)

What's a BCOP?

Best Current Operational Practices

A living document describing the best operational practices currently agreed on by subject matter experts

Vetted and periodically reviewed by the global network engineering community (GNEC)

The Problem

Operational knowledge tends to be “tribal”

- Presentations, hallway conversations, internal documents, in someone’s head...
- Technology, tools, and practices change over time...

There are hundreds of operational forums globally

- Archives stored in different formats, some searchable, rarely have speech text or video, no vetting, and state unknown.

How do I find up-to-date, relevant information when I need it?

The BCOP Solution

Open, Transparent, Bottom-up, and Community led

- Community driven, community written, community vetted Best Current Operational Practices from an open forum, list, and publicly searchable site.
- Community written and approved development process for BCOPs
- Everyone is welcome to participate

80/20 model

BCOP efforts around the world

<http://www.internetsociety.org/deploy360/about/bcop/>

- Africa: BCOP group started under AfNOG, lead by Douglas Onyango
- Asia: **BoF this Wednesday! Room 411, 17:30-19:00**
- Europe: RIPE BCOP Task Force created, co-chaired by Benno Overeider and Jan Žorž
- Latin America: BCOP Task Force started under LACNOG, lead by Luis Balbinot and Pedro R Torres Jr.
- North America: NANOG BCOP Committee established, lead by Aaron Hughes and Chris Grundemann

BCOP documents currently in progress

IPv6 troubleshooting for residential helpdesks (RIPE)

DNSSEC for authoritative name servers (RIPE)

(e)BGP configuration (RIPE & NANOG)

IPv6 Peering (NANOG)

Public Peering Exchange Participant (NANOG)

Ethernet OAM (NANOG)

Anti-DDoS (NANOG)

BCP 38 (NANOG)

Africa-specific IPv6 FAQ (AfNOG)

Potential Topics for Additional BCOPs

<http://www.internetsociety.org/deploy360/about/bcop/topics/>

How to test your network performance

How to check your visibility from global Internet

De-Aggregation: strict filtering /48s out of /32

How are operators using IRR?

IPv6 enterprise network renumbering scenarios, considerations, and methods

DNS Policies

Email Policies

ICMP Filtering

... (we need more suggestions)

Next Steps

Where are we going from here?

Continue to bootstrap new efforts as needed

Develop new BCOP documents

Lots of low-hanging fruit

Review and update existing BCOP documents

Start thinking & talking about global coordination

Get Involved Today!

Join this grass-roots effort at the ground floor!

Contribute to an existing draft

Offer ideas for new drafts

Kick off a new document

Start a local or regional BCOP effort

Email deploy360@isoc.org for more information



Operators & the IETF

Project Rationale

In a perfect world:

- Operators participate in the IETF standards process
- New standards work perfectly once deployed
- Deployment and operationalization concerns are addressed
- Operators know when to participate, and do so in a timely manner

In reality:

- Network operators are not engaged enough in the IETF process
- Many operators do not join IETF mailing lists or attend meetings
- Operators do not know standards are even under development
- Standards deemed ready by recent IETF attendees sometimes turn out to be problematic in operational networks

ISOC's Role

The discussion about operator input (or lack thereof) into the IETF process is not new, but there was very little hard data to back up anecdotal evidence

DO created and marketed an online survey in 2014 to understand the operators' issues so that we can address the concerns and ultimately help make better standards

We are working to facilitate communications between operators and the IETF to help ensure operational realities inform standards development

A Three-Phase Plan

Phase 1 – Survey the operator community

The survey closed on 1 July 2014 with over 350 responses

Phase 2 – Synthesize, discuss, and document survey results

- An Internet-Draft at the IETF: <https://tools.ietf.org/html/draft-opsawg-operators-ietf>

Phase 3 – Action!

- Facilitate increased operator input into the IETF
- An Internet Society Whitepaper (forthcoming)

Initial Survey Results (Part 1)

Most survey participants were Operators/Engineers/Architects; more than 90% hold primarily technical roles

Many have heard of the IETF and know what it does, but do not know how to participate

A strong majority claim they are interested in IETF mailing lists, find the content relevant, believe it's important to their jobs, but don't have enough time to participate in mailing lists

Initial Results (Part 2)

~50% do not participate in the IETF in any form; ~30% participate only on mailing lists

+50% believe operator input is welcome; 64% say they do NOT rely on vendors to represent them

50% of respondents claim to have a managerial role

82% say that they do not have a travel budget for IETF meetings

Survey Analysis

Collected data into an IETF Internet-Draft, including a report on the challenges to greater operator engagement and a summary of potential solutions, including:

- Things operators and operator groups can do to help provide more input
- Things the IETF can do to help operators participate
- Things ISOC can do to help facilitate greater operator engagement

Internet-Draft online at <https://tools.ietf.org/html/draft-opsawg-operators-ietf>

Phase 3 - Next Steps to Prompt Action

Host discussions, gather feedback

At IETFs, NOGs, and events all around the world with all types of operators

Wednesday, Room 502 + 503, 17:30 - 19:00

Update the Internet-Draft

Synthesize additional input into future versions

<https://datatracker.ietf.org/doc/draft-opsawg-operators-ietf/>

Lobby for specific solutions?

Take necessary actions

Based on what we hear from you and others

Thank You!

Chris Grundemann

Deploy360@isoc.org