NERC

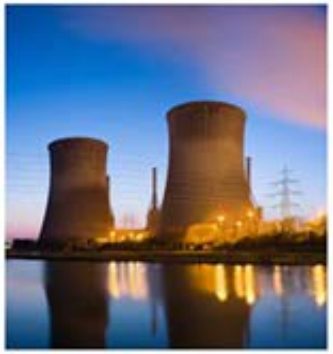
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Project 2016-02 CIP Modifications

Webinar on Standard Drafting Team Proposals for Stakeholder Comment/Ballot

November 15, 2016

RELIABILITY | ACCOUNTABILITY

Administrative Items

- NERC Antitrust Guidelines
  - It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.
- Notice of Open Meeting
  - Participants are reminded that this webinar is public. The access number was widely distributed. Speakers on the call should keep in mind that the listening audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.

Webinar Topics

- Introductions
- LERC Proposal
- Transient Cyber Assets (TCAs) at Lows Proposal
- Implementation Plans
- Questions and Answers

Low Impact External Routable Connectivity Discussion Items

- Second proposal posted for stakeholder comment
- Proposal includes:
  - Modifications to CIP-003, R2, Attachment 1, Sections 2 and 3
    - Revision to retire Low Impact External Routable Connectivity (LERC) and Low Impact BES Cyber System Electronic Access Point (LEAP)
  - Implementation date proposal of 12 months from approval
  - Consideration of directives
  - VRF and VSL justification
  - Comment form
  - Response to comments from the prior ballot
- Comment period: October 21 – December 5
- RSAW comment period: November 4 – December 5
- Ballot period: November 23 – December 5

Low Impact External Routable Connectivity Discussion Items

- In response to stakeholder comments on the first proposal, the team reached consensus to remove LERC and incorporate the concepts from the definition into the requirement language.
- The proposed revisions:
  - Focus on "access" to low impact BES Cyber Systems rather than the BES asset
  - Emphasize achieving the security objective of implementing security controls rather than making lists (documenting) where LERC exists
  - Because the term LERC is used in only one standard (CIP-003), provide more clarity by incorporating the language of the LERC definition into the standard (Attachment 1, Section 3.1 and eliminating the defined term)

Low Impact External Routable Connectivity Discussion Items

- CIP-003-7, Attachment 1, Section 2:

  Section 2. Physical Security Controls*:* Each Responsible Entity shall control physical access, based on need as determined by the Responsible Entity, to (1) the asset or the locations of the low impact BES Cyber Systems within the asset, and (2) the Cyber Asset(s), as specified by the Responsible Entity, that provide electronic access control(s) implemented for Section 3.1, if any.

Low Impact External Routable Connectivity Discussion Items

- CIP-003-7, Attachment 1, Section 3:

Section 3. Electronic Access Controls: For each asset containing low impact BES Cyber System(s) identified pursuant to CIP-002, the Responsible Entity shall implement electronic access controls to:

3.1 Permit only necessary inbound and outbound electronic access as determined by the Responsible Entity for any communications that are:

i. between a low impact BES Cyber System(s) and a Cyber Asset(s) outside the asset containing low impact BES Cyber System(s);

ii. using a routable protocol when entering or leaving the asset containing the low impact BES Cyber System(s); and,

iii. not used for time-sensitive protection or control functions between intelligent electronic devices (e.g. communications using protocol IEC TR-61850-90-5 R-GOOSE).

3.2 Authenticate all Dial-up Connectivity, if any, that provides access to low impact BES Cyber System(s), per Cyber Asset capability.

Low Impact External Routable Connectivity Implementation Plan

- The effective date for the proposed Reliability Standard is provided below:
  - Where approval by an applicable governmental authority is required, Reliability Standard CIP-003-7 shall become effective on the later of September 1, 2018 or the first day of the first calendar quarter that is twelve (12) calendar months after the effective date of the applicable governmental authority's order approving the standard, or as otherwise provided for by the applicable governmental authority.
  - Where approval by an applicable governmental authority is not required, Reliability Standard CIP-003-7 shall become effective on the first day of the first calendar quarter that is twelve (12) calendar months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Low Impact External Routable Connectivity Implementation Plan

- General Considerations:
  - Requirement 2, Attachment 1, Sections 1 and 4 will be effective with CIP-003-6
  - Requirement 2, Attachment 1, Sections 2 and 3 shall be replaced with the effective date of CIP-003-7

Transient Devices at Lows Discussion Items

Revised "Transient Cyber Asset" (TCA) Definition:

- A Cyber Asset that is:
  1. capable of transmitting or transferring executable code;
  2. not included in a BES Cyber System;
  3. not a Protected Cyber Asset (PCA) associated with high or medium impact BES Cyber Systems; and
  4. directly connected (e.g., using Ethernet, serial, Universal Serial Bus, or wireless including near field or Bluetooth communication) for 30 consecutive calendar days or less to a:
     - BES Cyber Asset,
     - network within an Electronic Security Perimeter containing high or medium impact BES Cyber Systems, or
     - PCA associated with high or medium impact BES Cyber Systems.
- Examples of Transient Cyber Assets include, but are not limited to, Cyber Assets used for data transfer, vulnerability assessment, maintenance, or troubleshooting purposes.

Transient Devices at Lows Discussion Items

- CIP-003-TCA, Attachment 1, Section 5:

Section 5. Transient Cyber Asset and Removable Media Malicious Code Mitigation Plan(s): Each Responsible Entity shall implement one or more plan(s) to achieve the objective of mitigating the introduction of malicious code to low impact BES Cyber Systems through the use of Transient Cyber Assets or Removable Media, which shall include:

5.1 For Transient Cyber Asset(s) managed by the Responsible Entity, if any, use of one or a combination of the following methods in an ongoing or on demand manner (per Transient Cyber Asset capability):

- Antivirus software, including manual or managed updates of signatures or patterns;
- Application whitelisting; or
- Other method(s) to mitigate the introduction of malicious code.

Transient Devices at Lows Discussion Items

- CIP-003-TCA, Attachment 1, Section 5:

5.2 For Transient Cyber Asset(s) managed by a party other than the Responsible Entity, if any, use of one or a combination of the following methods prior to connecting the Transient Cyber Asset to a low impact BES Cyber System (per Transient Cyber Asset capability):

- Review of antivirus update level;
- Review of antivirus update process used by the party;
- Review of application whitelisting used by the party;
- Review use of live operating system and software executable only from read-only media;
- Review of system hardening used by the party; or
- Other method(s) to mitigate the introduction of malicious code.

Transient Devices at Lows Discussion Items

- CIP-003-TCA, Attachment 1, Section 5:

5.3 For Removable Media, perform each of the following:

5.3.1 Use of method(s) to detect malicious code on Removable Media using a Cyber Asset other than a BES Cyber System; and

5.3.2 Mitigation of the threat of detected malicious code on the Removable Media prior to connecting Removable Media to a low impact BES Cyber System.

Transient Cyber Asset Implementation Plan

- The effective date for the proposed Reliability Standard is provided below:
  - Where approval by an applicable governmental authority is required, Reliability Standard CIP-003-7-TCA and the NERC Glossary term Transient Cyber Asset (TCA) shall become effective on the later of September 1, 2018 or the first day of the first calendar quarter that is twelve (12) calendar months after the effective date of the applicable governmental authority's order approving the standard and NERC Glossary term, or as otherwise provided for by the applicable governmental authority.
  - Where approval by an applicable governmental authority is not required, Reliability Standard CIP-003-TCA and the NERC Glossary term Transient Cyber Asset (TCA) shall become effective on the first day of the first calendar quarter that is twelve (12) calendar months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Implementation Worksheet

Standard/Requirement	NERC Board Adoption	Order 822 Effective Date: March 31, 2016	V5 Enforcement Date***	If effective date of the FERC approval, then LERC revisions become effective:			
		Compliance Deadline		2Q17	3Q17	4Q17	1Q18
CIP-002-5	IAC, CN revisions - November 13, 2014 LI, TD revisions - February 12, 2015	1-Jul-16	July 1, 2016 - CIP V5 Approved Compliance Date				
CIP-003-6		1-Jul-16		1-Jul-16	1-Jul-16	1-Jul-16	1-Jul-16
CIP-003-6, R1, part 1.1*		1-Jul-16		1-Jul-16	1-Jul-16	1-Jul-16	1-Jul-16
CIP-003-6, R1, part 1.2		1-Apr-17		1-Apr-17	1-Apr-17	1-Apr-17	1-Apr-17
CIP-003-6, R2		1-Apr-17		1-Apr-17	1-Apr-17	1-Apr-17	1-Apr-17
CIP-003-6, Att 1, Sect. 1		1-Apr-17		1-Apr-17	1-Apr-17	1-Apr-17	1-Apr-17
CIP-003-7, Att 1, Sect. 2		1-Sep-18		1-Sep-18	1-Oct-18	1-Jan-19	1-Apr-19
CIP-003-7, Att 1, Sect. 3		1-Sep-18		1-Sep-18	1-Oct-18	1-Jan-19	1-Apr-19
CIP-003-6, Att 1, Sect. 4		1-Apr-17		1-Apr-17	1-Apr-17	1-Apr-17	1-Apr-17
CIP-004-6		1-Jul-16		All dates and deadlines remain active under CIP V6 implementation plan			
CIP-005-5		1-Jul-16					
CIP-006-6		1-Jul-16					
CIP-006-6, R1, part 1.10**		1-Apr-17					
CIP-007-6		1-Jul-16					
CIP-007-6, R1, part 1.2**		1-Apr-17					
CIP-008-5		1-Jul-16					
CIP-009-6		1-Jul-16					
CIP-010-2		1-Jul-16					
CIP-010-2, R4		1-Apr-17					
CIP-011-2		1-Jul-16					
TCA, RM Glossary Terms		1-Apr-17					
BCA, PCA Glossary Terms		1-Apr-17					
LERC, LEAP Glossary Terms		1-Apr-17		Retirement of Terms			

Resources

- This slide deck and other information relative to the CIP Modifications SDT may be found on the Project 2016-02 Project Page under Related Files:

  Project 2016-02 Modifications to CIP Standards

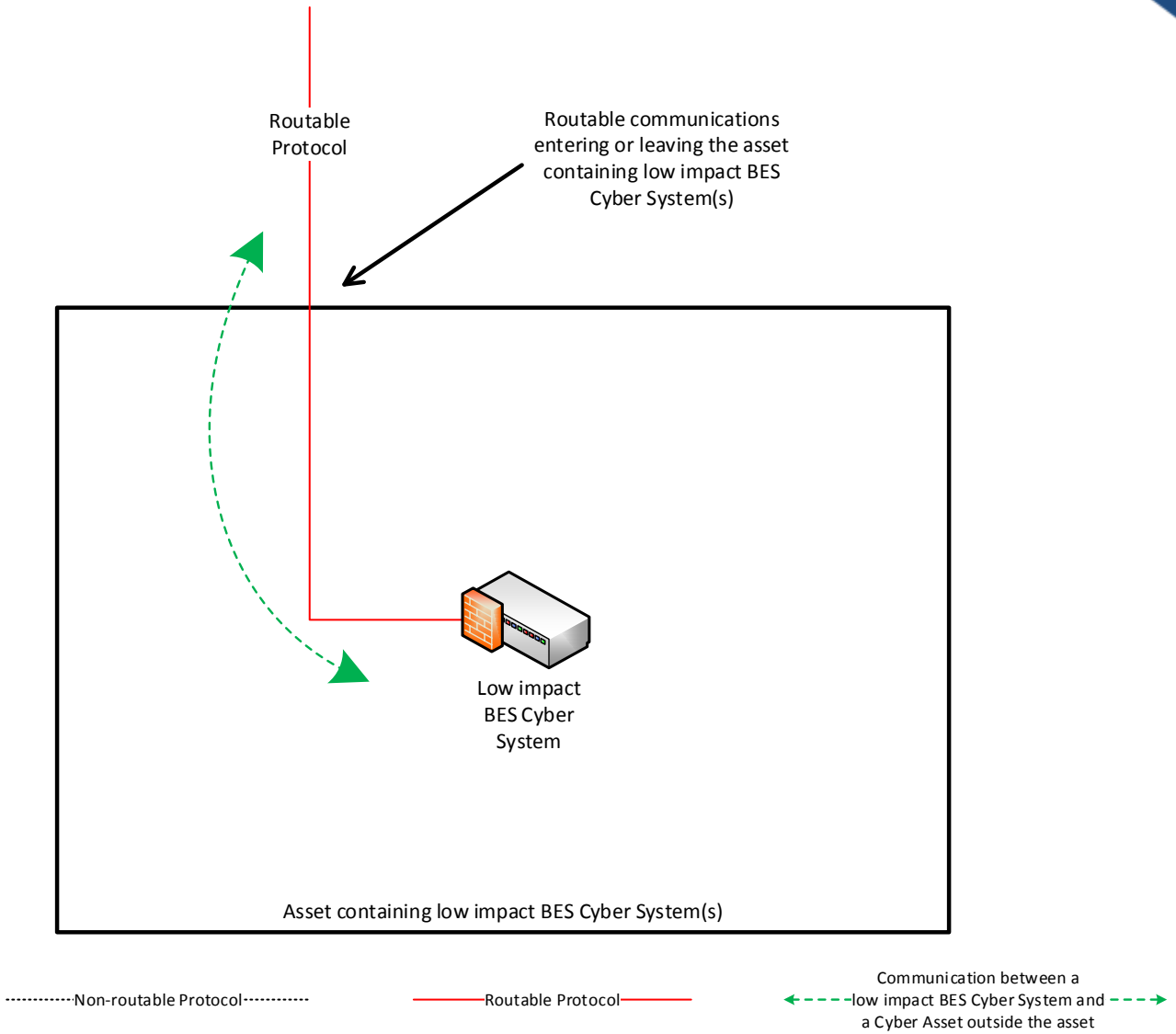
- Webinar presentations and recordings may be found on the NERC Webinars page:

  http://www.nerc.com/pa/Stand/Pages/Webinars.aspx

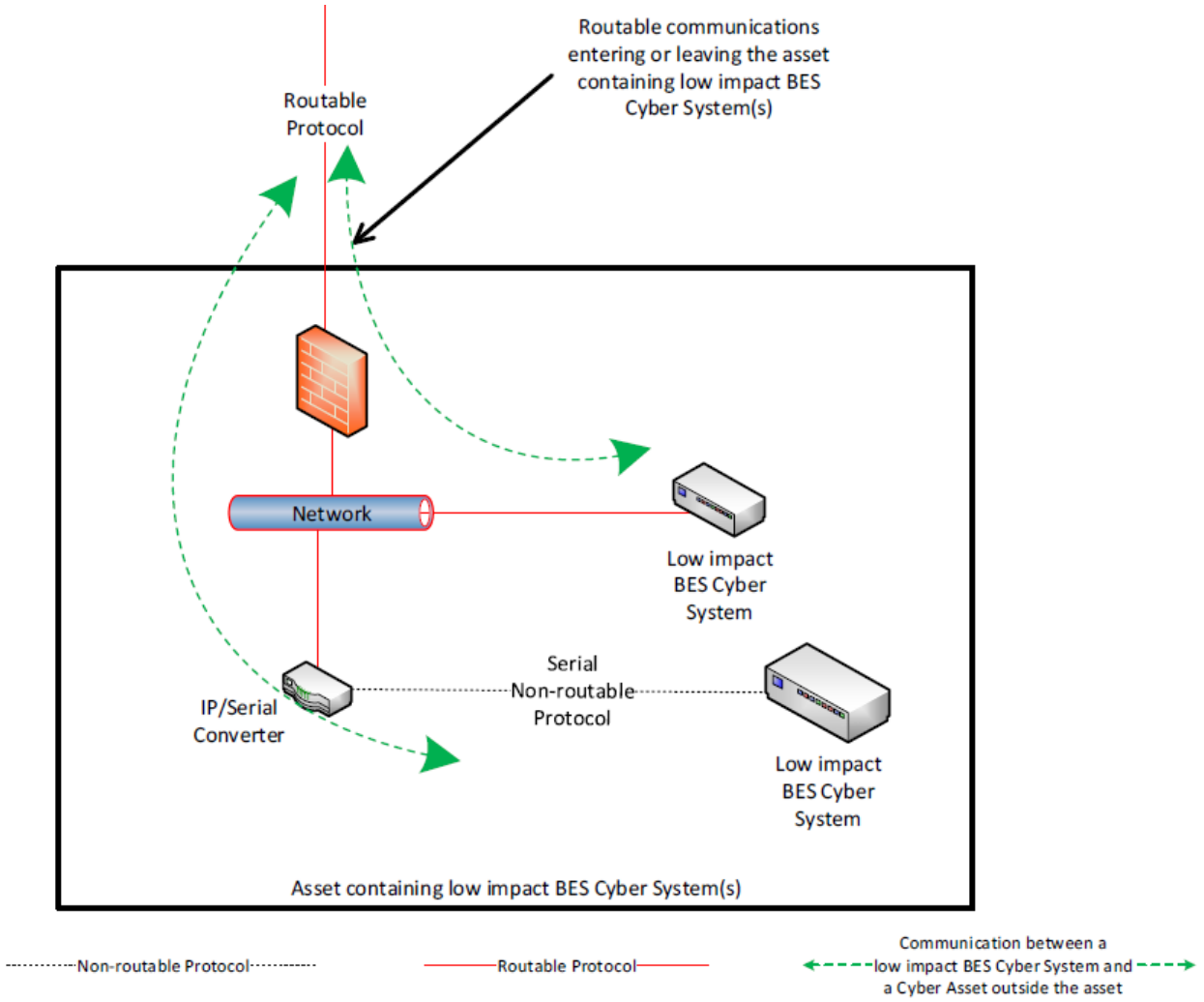
Questions and Answers

Reference Models

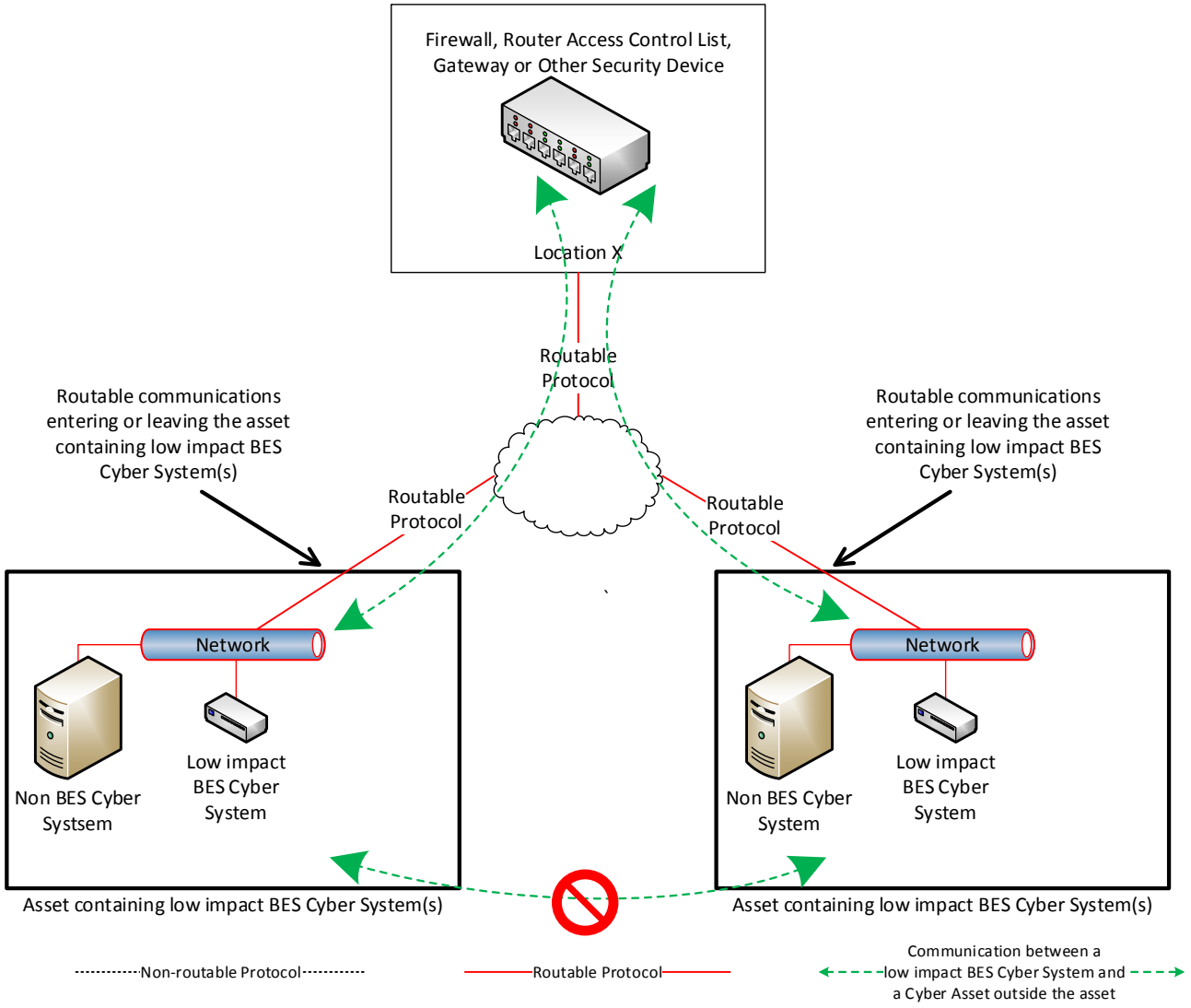
Reference Model 1 – Host-based Inbound & Outbound Access Permissions



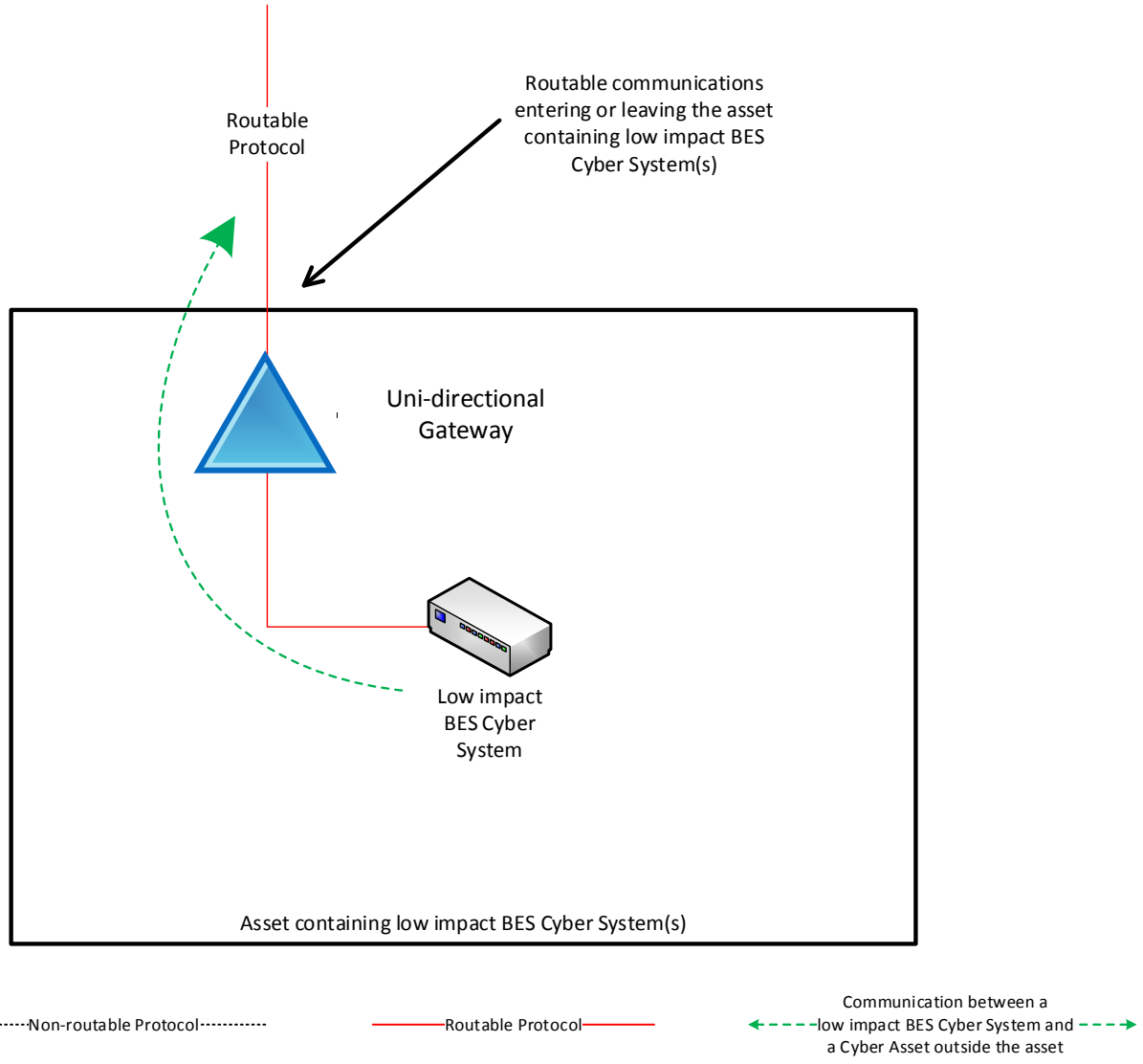
Reference Model 2 - Network-based Inbound & Outbound Access Permissions



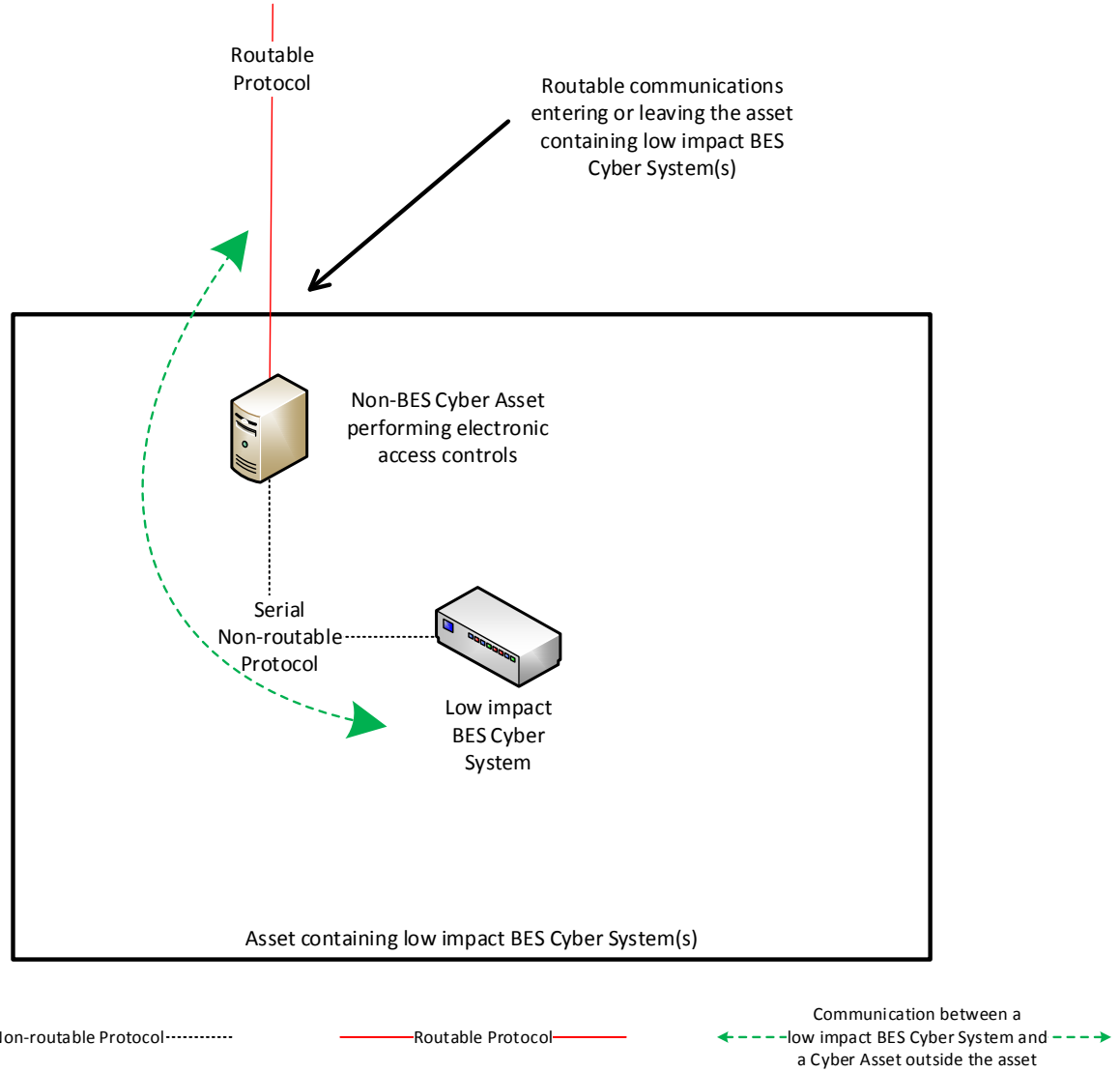
Reference Model 3 – Centralized Network-based Inbound & Outbound Access Permissions



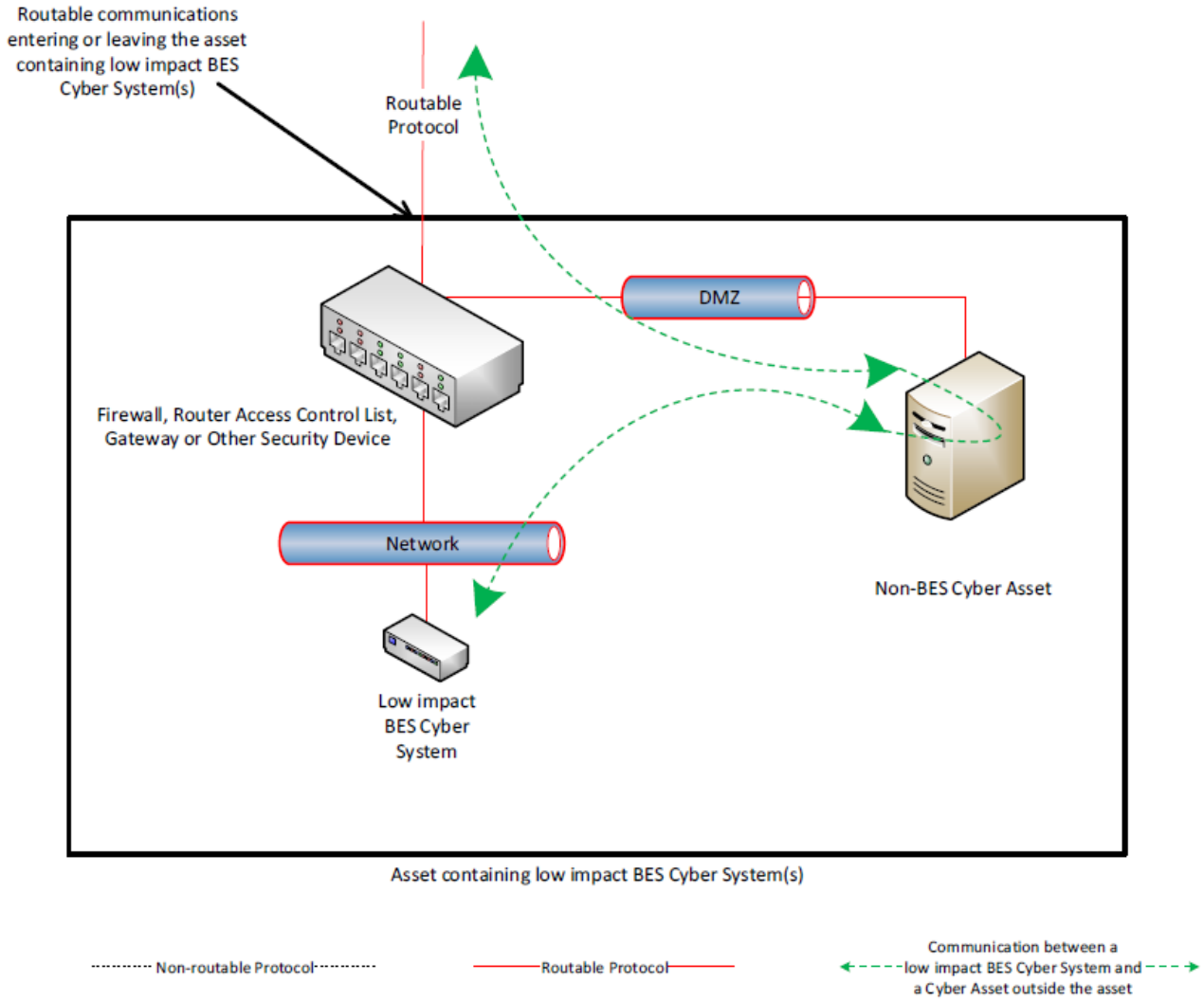
Reference Model 4 – Uni-directional Gateway



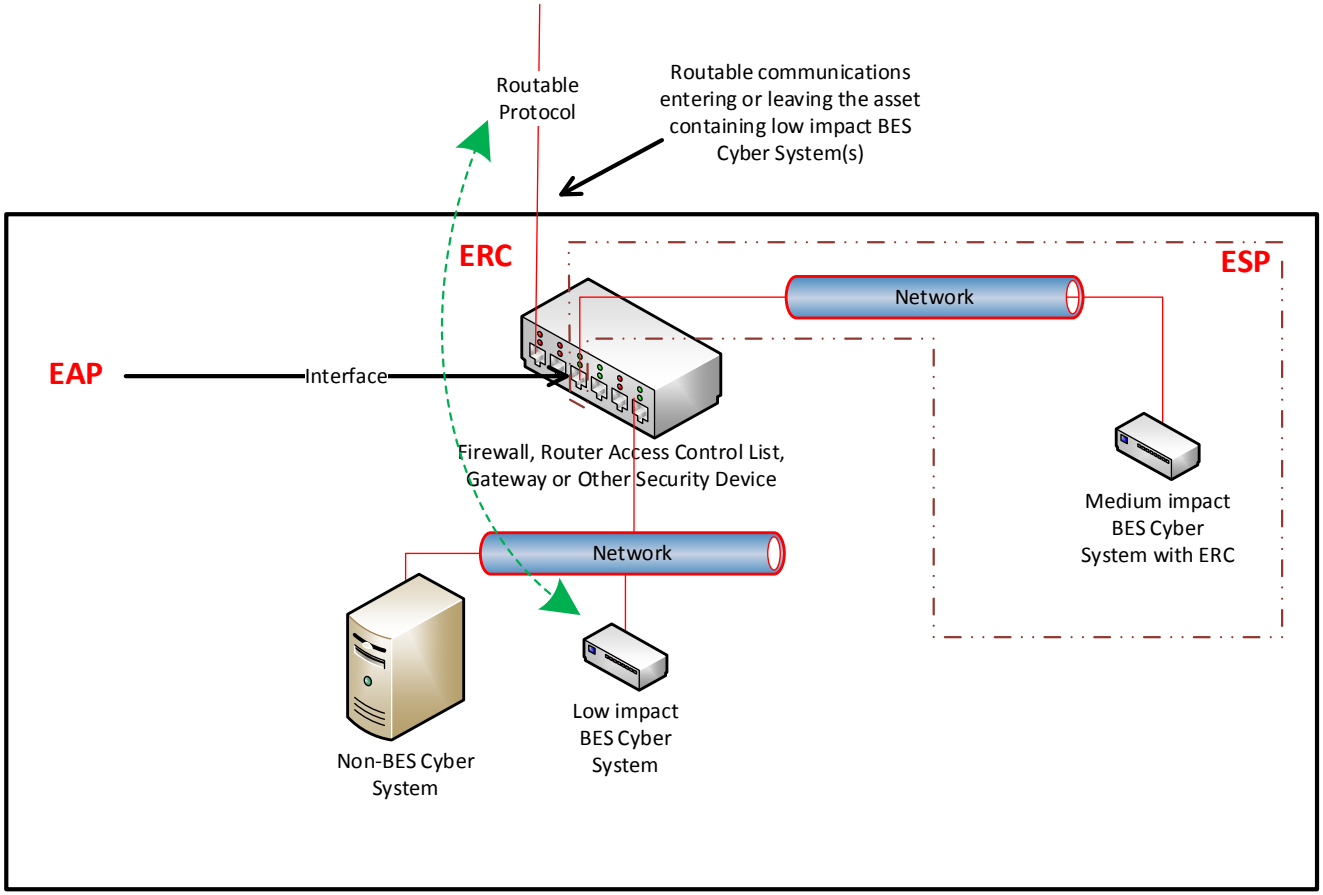
Reference Model 5 – User Authentication



Reference Model 6 – Indirect Access



Reference Model 7 – Electronic Access Controls at assets containing low impact BES Cyber Systems and ERC



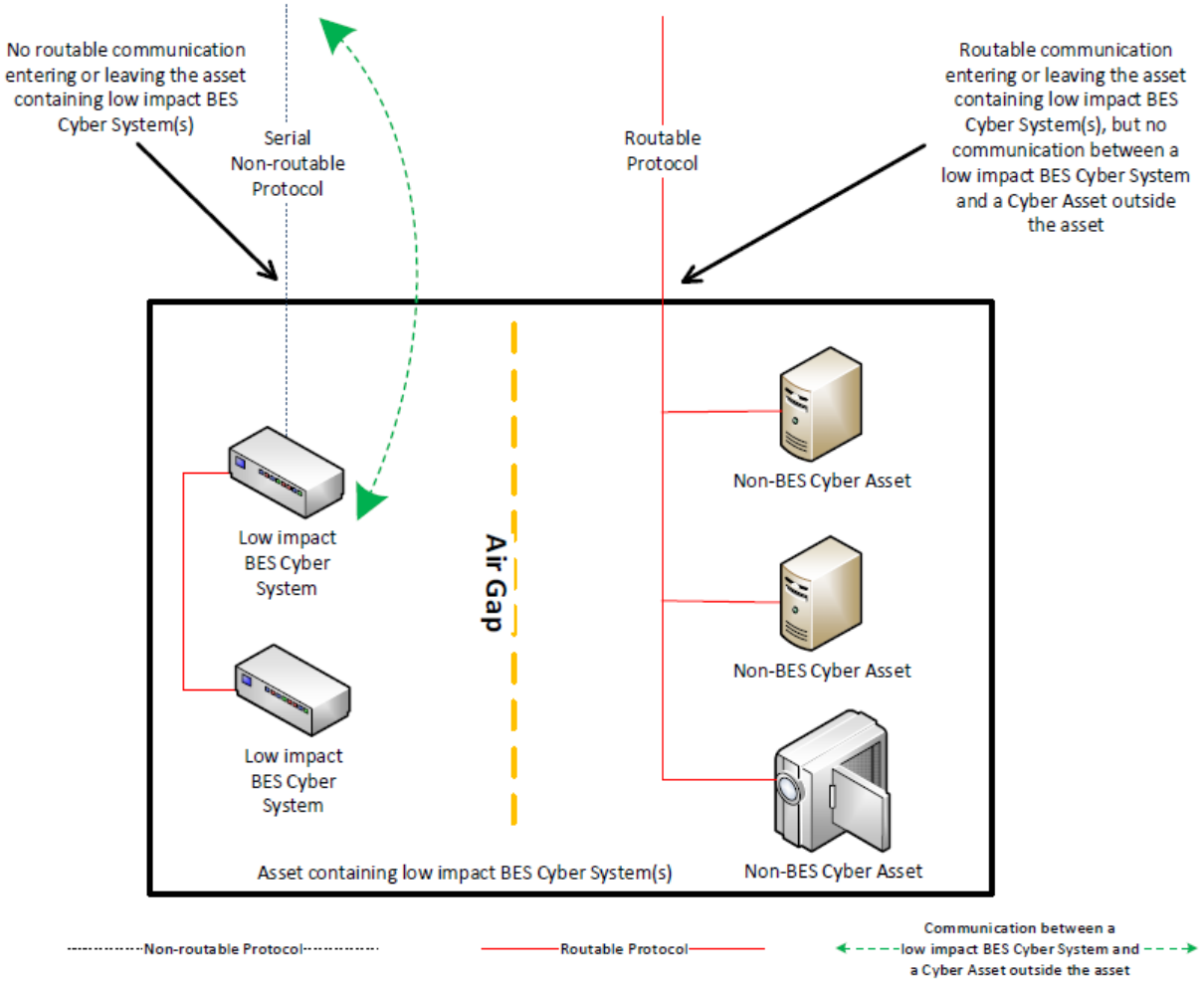
Asset containing low impact BES Cyber System(s) and medium impact BES Cyber System(s)

----------Non-routable Protocol----------

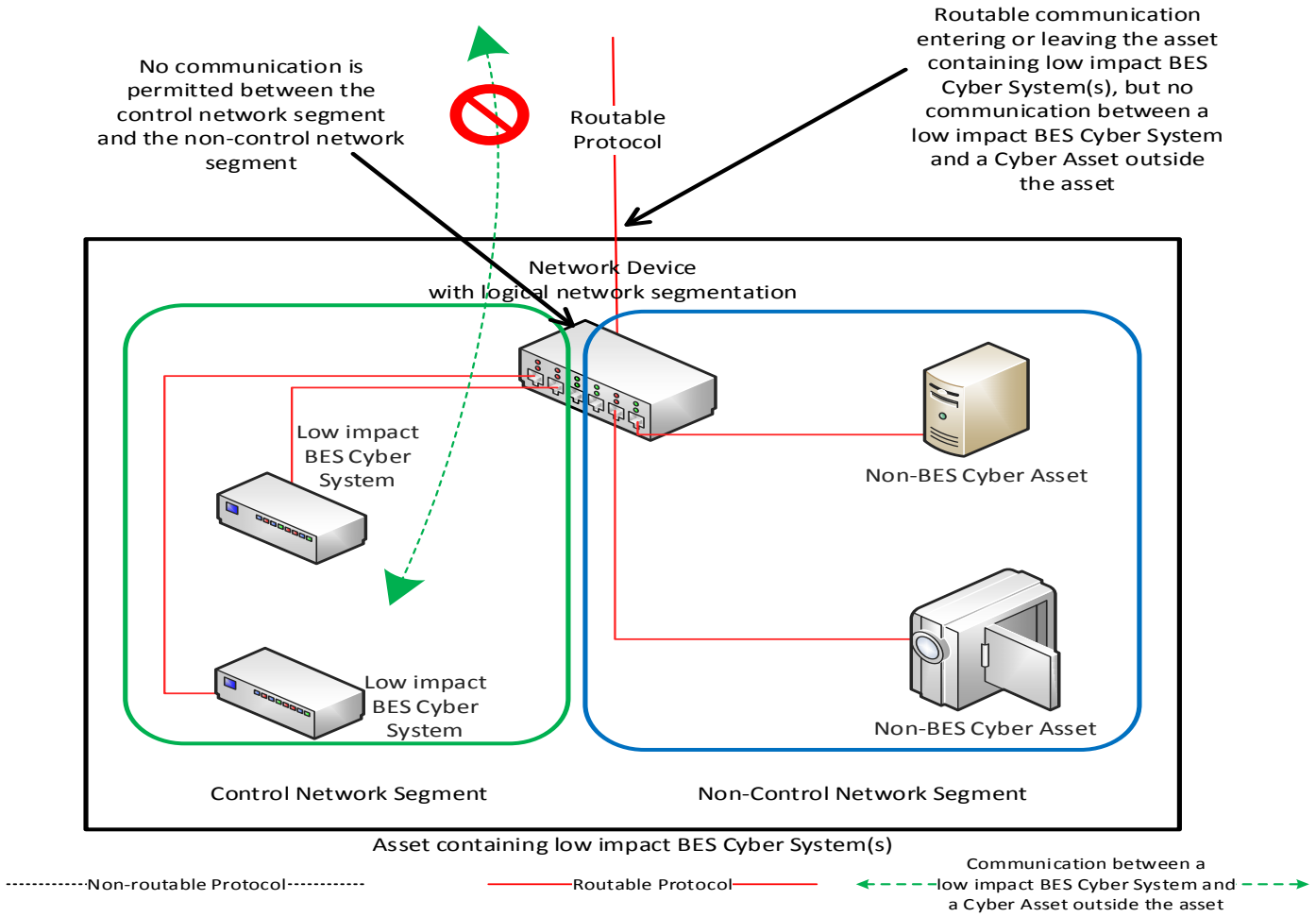
Routable Protocol

Communication between a low impact BES Cyber System and a Cyber Asset outside the asset

Reference Model 8 - Physical Isolation and Serial Non-routable Communications – No Electronic Access Controls Required



Reference Model 9 – Logical Isolation - No Electronic Access Controls Required



Reference Model 10 – Serial Non-routable Communications Traversing an Isolated Channel on a Non-routable Transport Network