



TÜRK STANDARDLARI ENSTİTÜSÜ

BİLİŞİM TEKNOLOJİLERİ TEST VE BELGELENDİRME DAİRESİ BAŞKANLIĞI
CCCS CERTIFICATION REPORT



Certification Report

EAL 4+ (AVA_VAN.5) Evaluation of

Bilge Siber Güvenlik Teknolojileri San. ve Tic. Ltd. Şti.

DataFlowX Data Diode Modules v1.0.0

issued by

Turkish Standards Institution

Common Criteria Certification Scheme

Certificate Number: 21.0.03/TSE-CCCS-65



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Document Information

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Sponsor and Developer	Bilge Siber Güvenlik Teknolojileri San. ve Tic. Ltd. Şti.
Evaluation Facility	BEAM TEKNOLOJİ A.Ş.
TOE	DataFlowX Data Diode Modules v1.0.0
Pages	16

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This report has been prepared by the Certification Expert and reviewed by the Technical Responsible of which signatures are above.

Document Change Log

Release	Date	Pages Affected	Remarks/Change Reference
1.0	10.03.2020	All	First Release

DISCLAIMER

This certification report and the IT product defined in the associated Common Criteria document has been evaluated at an accredited and licensed evaluation facility conformant to Common Criteria for IT Security Evaluation, *version 3.1, revision 5*, using Common Methodology for IT Products Evaluation, *version 3.1, revision 5*. This certification report and the associated Common Criteria document apply only to the identified version and release of the product in its evaluated configuration. Evaluation has been conducted



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in accordance with the provisions of the CCCS, and the conclusions of the evaluation facility in the evaluation report are consistent with the evidence adduced.

FOREWORD

The Certification Report is drawn up to submit the Certification Commission the results and evaluation information upon the completion of a Common Criteria evaluation service performed under the Common Criteria Certification Scheme. Certification Report covers all non-confidential security and technical information related with a Common Criteria evaluation which is made under the ITCD Common Criteria Certification Scheme. This report is issued publicly to and made available to all relevant parties for reference and use.

The Common Criteria Certification Scheme (CCCS) provides an evaluation and certification service to ensure the reliability of Information Security products. Evaluation and tests are conducted by a public or commercial Common Criteria Evaluation Facility (CCTL = Common Criteria Testing Laboratory) under CCCS' supervision.

CCTL is a facility, licensed as a result of inspections carried out by CCCS for performing tests and evaluations which will be the basis for Common Criteria certification. As a prerequisite for such certification, the CCTL has to fulfill the requirements of the standard ISO/IEC 17025 and should be accredited by accreditation bodies. The evaluation and tests related with the concerned product have been performed by BEAM TEKNOLOJİ A.Ş., which is a public/commercial CCTL.

A Common Criteria Certificate given to a product means that such product meets the security requirements defined in its security target document that has been approved by the CCCS. The Security Target document is where requirements defining the scope of evaluation and test activities are set forth. Along with this certification report, the user of the IT product should also review the security target document in order to understand any assumptions made in the course of evaluations, the environment where the IT product will run, security requirements of the IT product and the level of assurance provided by the product.

This certification report is associated with the Common Criteria Certificate issued by the CCCS for *DataFlowX Data Diode Modules v1.0.0* whose evaluation was completed on *04.11.2019* and whose evaluation technical report was drawn up by *02.03.2020* (as CCTL), and with the Security Target document with version no *1.1* of the relevant product.



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The certification report, certificate of product evaluation and security target document are posted on the ITCD Certified Products List at bilisim.tse.org.tr portal and the Common Criteria Portal (the official web site of the Common Criteria Project).

RECOGNITION OF THE CERTIFICATE

The Common Criteria Recognition Arrangement logo is printed on the certificate to indicate that this certificate is issued in accordance with the provisions of the CCRA.

The CCRA has been signed by the Turkey in 2003 and provides mutual recognition of certificates based on the CC evaluation assurance levels up to and including EAL2. The current list of signatory nations and approved certification schemes can be found on:

<http://www.commoncriteriaportal.org>

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This report constitutes the certification results by the certification body on the evaluation results applied with requirements of the Common Criteria for Information Security Evaluation.

Evaluated IT product name: *DataFlowX Data Diode Modules*

IT Product version: *v1.0.0*

Developer's Name: *Bilge Siber Güvenlik Teknolojileri San. ve Tic. Ltd. Şti.*

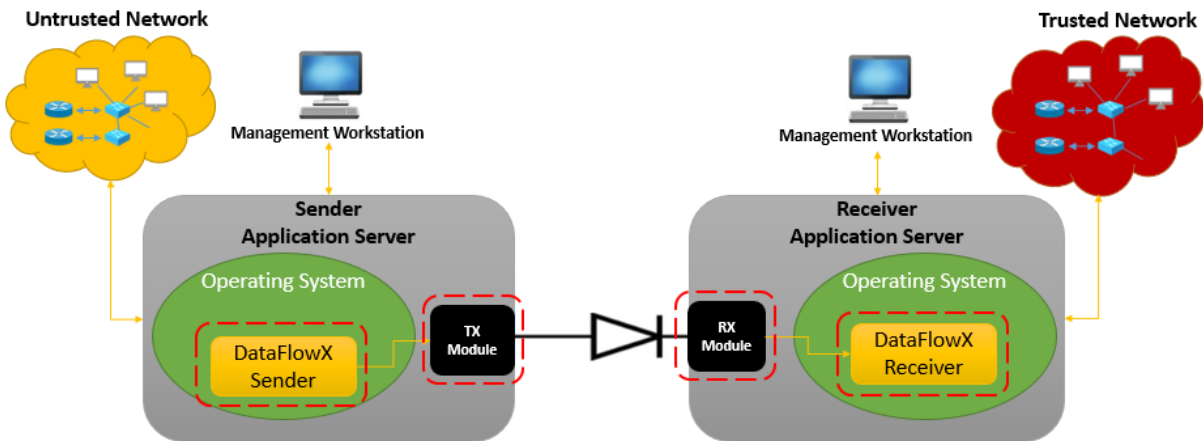
Name of CCTL: *BEAM TEKNOLOJİ A.Ş.*

Assurance Package: *EAL 4+ (AVA_VAN.5)*

Completion date of evaluation: *02.03.2020*

1.1. Brief Description

The TOE is a unidirectional gateway solution works at the physical layer. It consists of software and hardware components. These components are located on two Application Servers and the TOE provides trusted path between those.

**1.2. Major Security Features**

The TOE provides User Data Protection.

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The threats are;

- T.Data_Leak: An attacker may breach the confidentiality of data on the trusted network by using a malicious software infected by attacker into devices in the trusted network with the aim of providing data leakage from the trusted network.
- T.Physical_Manipulation: The hardware parts of the TOE may be subject to physical attack by an attacker, which may compromise security of the user data.

2. CERTIFICATION RESULTS**2.1. Identification of Target of Evaluation**

Certificate Number	21.0.03/TSE-CCCS-65
TOE Name and Version	DataFlowX Data Diode Modules v1.0.0
Security Target Title	DataFlowX Data Diode Modules Security Target
Security Target Version	1.1
Security Target Date	19.02.2020
Assurance Level	EAL 4+(AVA_VAN.5)
Criteria	<ul style="list-style-type: none">• <i>Common Criteria for Information Technology Security Evaluation, Part 1: Introduction and General Model; CCMB-2017-04-001, Version 3.1, Revision 5, April 2017</i>

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Criteria	<ul style="list-style-type: none">• <i>Common Criteria for Information Technology Security Evaluation, Part 2: Security Functional Components; CCMB-2017-04-002, Version 3.1, Revision 5, April 2017</i>• <i>Common Criteria for Information Technology Security Evaluation, Part 3: Security Assurance Components; CCMB-2017-04-003, Version 3.1, Revision 5, April 2017</i>
Methodology	<i>Common Criteria for Information Technology Security Evaluation, Evaluation Methodology; CCMB-2017-04-004, Version 3.1, Revision 5, April 2017</i>
Protection Profile Conformance	<i>None</i>
Sponsor and Developer	<i>BİLGE SİBER GÜVENLİK TEKNOLOJİLERİ TİC. VE SAN. LTD. ŞTİ.</i>
Evaluation Facility	<i>BEAM TEKNOLOJİ A.Ş.</i>
Certification Scheme	<i>TSE CCCS</i>

2.2. Security Policy

There are two Organisational Security Policies presented at the Security Target;

- P.One_Way_Flow: The TOE shall provide one-way data path from the SFP Fiber Optic Interface of the TX Module to the SFP Fiber Optic Interface of the RX Module.
- P.Standart: TX and RX modules of TOE should be installed by NATO SDIP-29 "Installation of Electrical Equipment for the Processing of Classified Information" standard or MST 401-1(A) "Turkish Armed Forces TEMPEST Standards" standard.

2.3. Assumptions and Clarification of Scope

Assumptions for the operational environment of the TOE are;

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- A.Personnel: It is assumed that the personnel with authorized physical access to the TOE is well-trained and will not attempt to circumvent the TOE's security functionality.
- A.Network: Apart from transmitting information through the TOE, It is assumed that there are no channels for the information to flow between the untrusted network and the trusted network.
- A.Environment: It is assumed that the TOE environment provides stable network connectivity for the TOE to perform its intended function.

2.4. Architectural Information

TOE is a unidirectional (one way) data diode composed of four subsystems on the two Application Servers. The xxs provides the transmission from high security network to low security network and prevents the transmission from low security network to high security network. The subsystems and their functionalities are;

- TX Module Subsystem: includes an optical transmitter to transmit the files unidirectionally,
- RX Module Subsystem: includes an optical sensor to receive the files unidirectionally,
- Sender Subsystem: Calculates the hash of the files and prepare them to be transmitted as data packets, sends packets to the TX Module,
- Receiver Subsystem: Receives data packets, merges them and checks hash values of the files

2.5. Documentation

Documents below are provided to the customer by the developer alongside the TOE;

Name of Document	Version Number	Date
<i>DataFlowX Data Diode Modules Security Target</i>	<i>V1.1</i>	<i>19.02.2020</i>
<i>DataFlowX Operasyonel Kullanıcı Kılavuzu Dokümanı</i>	<i>V0.6</i>	<i>06.02.2020</i>
<i>DataFlowX Kurulum Prosedürleri Dokümanı</i>	<i>V0.5</i>	<i>06.02.2020</i>

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2.6. *IT Product Testing*

During the evaluation, all evaluation evidences of TOE were delivered and transferred completely to CCTL by the developer. All the delivered evaluation evidences which include software, documents, etc. are mapped to the assurance families Common Criteria and Common Methodology; so the connections between the assurance families and the evaluation evidences has been established. The evaluation results are available in the final Evaluation Technical Report (ETR) of DataFlowX Data Diode Modules v1.0.0.

It is concluded that the TOE supports EAL 4+ (AVA_VAN.5). There are 24 assurance families which are all evaluated with the methods detailed in the ETR.

2.6.1. *Developer Testing*

Developer has prepared TOE Test Document according to the TOE Functional Specification documentation, TOE Design documentation which includes TSF subsystems and its interactions. All SFR-Enforcing TSFIs have been tested by developer. Developer has conducted 3 functional tests in total.

2.6.2. *Evaluator Testing*

- Independent Testing: Evaluator has chosen 3 developer tests to conduct by itself. Additionally, evaluator has prepared 2 independent tests. TOE has passed all 5 functional tests to demonstrate that its security functions work as it is defined in the ST.
- Penetration Testing: TOE has been tested against common threats and other threats surfaced by vulnerability analysis. As a result, 2 penetration tests have been conducted. It should be noted that as it expressed at the Security Target document (P.Standart), the TOE should be installed in accordance with the NATO SDIP-29 “Installation of Electrical Equipment for the Processing of Classified Information” and MST 401-1(A) “Turkish Armed Forces TEMPEST Standards”.
With these guidance, especially the physical attack interfaces become impractical

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The evaluated TOE configuration is composed of;

- DataFlowX Data Diode Modules v1.0.0,
- Guidance Documents

Also as consistent with the minimum Hardware/Software/OS requirements for the TOE, the test environment presented at the ETR is composed of;

- FileZilla Client,
- Two instances of servers;
 - OS: Linux (Pardus 17.5 UVD Server 64-bit,
 - RAM: 256 GB
 - 12 CPU

2.8. Results of the Evaluation

The table below provides a complete listing of the Security Assurance Requirements for the TOE. These requirements consists of the Evaluation Assurance Level 4 (EAL 4) components as specified in Part 3 of the Common Criteria, augmented with AVA_VAN.5

Assurance Class	Component	Component Title
Development	ADV_ARC.1	Security Architecture Description
	ADV_FSP.4	Complete functional specification
	ADV_IMP.1	Implementation representation of the TSF

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	ADV_TDS.3	Basic Modular Design
Guidance Documents	AGD_OPE.1	Operational User Guidance
	AGD_PRE.1	Preparative Procedures
Life-Cycle Support	ALC_CMC.4	Production Support, Acceptance Procedures and automation
	ALC_CMS.4	Problem Tracking CM Coverage
	ALC_DEL.1	Delivery Procedures
	ALC_DVS.1	Identification of Security Measures
	ALC_LCD.1	Developer Defined Life-Cycle Model
	ALC_TAT.1	Well-Defined Development Tools
Security Target Evaluation	ASE_CCL.1	Conformance Claims
	ASE_ECD.1	Extended Components Definition
	ASE_INT.1	ST Introduction
	ASE_OBJ.2	Security Objectives
	ASE_REQ.2	Derived Security Requirements

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	ASE_SPD.1	Security Problem Definition
	ASE_TSS.1	TOE Summary Specification
Tests	ATE_COV.2	Analysis of coverage
	ATE_DPT.1	Testing: Basic Design
	ATE_FUN.1	Functional Testing
Vulnerability Analysis	AVA_VAN.5	Advanced Methodical Vulnerability analysis

The Evaluation Team assigned a Pass, Fail, or Inconclusive verdict to each work unit of each EAL 4+ (AVA_VAN.5) assurance component. For Fail or Inconclusive work unit verdicts, the Evaluation Team advised the developer about the issues requiring resolution or clarification within the evaluation evidence. In this way, the Evaluation Team assigned an overall Pass verdict to the assurance component only when all of the work units for that component had been assigned a Pass verdict. So for TOE “DataFlowX Data Diode Modules v1.0.0”, the results of the assessment of all evaluation tasks are “Pass”.

2.9. Comments / Recommendations

It is recommended that all guidance outlined in the Guidance Documents be followed and all assumptions are fulfilled in order to the secure usage of the TOE.

The users of the TOE should be aware that during the hashing the files to be transmitted, MD5 algorithm is used for checking the integrity.

It is also crucial that the TOE should be installed in accordance with the NATO SDIP-29 “Installation of Electrical Equipment for the Processing of Classified Information” and MST 401-1(A) “Turkish Armed



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Forces TEMPEST Standards”. This is the core part of the operational environment OE.Standart stated at the Security Target

3. SECURITY TARGET

The Security Target associated with this Certification Report is identified by the following terminology:

Title: *DataFlowX Data Diode Modules Security Target*

Version: *1.1*

Date of Document: *19.02.2020*

A public version has been created and verified according to ST-Santizing:

Title: *DataFlowX Data Diode Modules Security Target*

Version: *1.1 - LITE*



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4. GLOSSARY

CCCS: Common Criteria Certification Scheme

CCMB: Common Criteria Management Board

ITCD: Information Technologies Test and Certification Department

EAL : Evaluation Assurance Level

OSP : Organisational Security Policy

SAR : Security Assurance Requirements

SFR : Security Functional Requirements

ST : Security Target

TOE : Target of Evaluation

TSF : TOE Security Functionality

TSFI : TSF Interface



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5. BIBLIOGRAPHY

- [1] Common Criteria for Information Technology Security Evaluation, Version 3.1 Revision 5, April 2017,
- [2] Common Methodology for Information Technology Security Evaluation, CEM, Version 3.1 Revision 5, April 2017,
- [3] BTBD-03-01-TL-01 Certification Report Preparation Instructions, Rel.Date: February 8th 2016,
- [4] BTTM-CCE-050 DTR v1.2 DataFlowX Data Diode Modules v1.0.0, March 2nd 2020
- [5] 2006-04-004 ST sanitizing for publication, April 2006

6. ANNEXES

There is no additional information which is inappropriate for reference in other sections