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Connecting Devices, Enterprises, and People

BACnet Over
IP Simulation
System **(BOSS)**

Introduction

BOSS Simulator

Softdel's BOSS Simulator provides a comprehensive ability to effectively troubleshoot BACnet functionality & interoperability by simulation of virtual devices, properties & service configurations.

BOSS enables developers & system integrators to configure, monitor & issue service commands to physical & virtual devices on the BACnet network.

PR-19 Compliant

BBMD Support

Device Discovery & Object Browsing

Monitoring & Control

Virtual Device Network

Rich User Interface

BOSS

Comprehensive Solution for BACnet Network Simulation

Key Features

- BACnet PR-19 Compliant
- Discover & browse BACnet devices
- Generate service commands, monitor property values
- Carry out product testing (BACnet specific)
- Simulate scheduling, trending, alarms & COV

Benefits

- Improved predictability – Cost, Quality & Time
- Reduced travel & time spent at end-customer sites
- Early identification of issues, hence cost saving
- Single PC & multi-virtual devices + configurations

50+ OEM Clients   300+ Users

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Simulator Feature List

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Discover

Automatically discover the BACnet (IP, Virtual BACnet device, & MS/TP, (via router)) devices, objects and their properties in your network

Browse

See the objects and devices in an easy-to-use format

Monitor

Set and monitor properties of the discovered objects

Control

Edit the values of properties within the discovered devices

Simulate

Simulate a deployed BACnet environment by configuring a custom set of BACnet service commands to generate periodic network traffic

BOSS Simulator Supports

- Supports ANSI X3.4, IBM/MS DBCS (code page 850) and ISO8859-1
- Discovers BACnet/IP, BACnet MS/TP (via router) and Virtual BACnet devices
- Discovers up to 1,000 BACnet devices
- Supports up to protocol revision 19 devices

Features	BOSS Simulator
Protocol revision support	PR-19
Simulate BACnet/IP devices virtually	✓
Discover and browse BACnet devices	✓
Object browser	✓
Configurable BACnet devices	✓
Automatic network traffic generator	✓
Monitor object property values	✓
Set property value of discovered objects	✓
Segmentation support	✓
BBMD Support	✓
Support for both A-side and B-side services	✓
User configurable simulation of PVs (Present Values)	✓
Supports IBM MS DBCS, ANSI X3.4 character sets	✓
Virtual router	✓
Real time logging, monitoring & analysis of BACnet commands and responses	✓
Backup and restore support	✓

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Supported Objects (Server Profile)

- Device
- Analog Input
- Analog Output
- Analog Value
- Binary Input
- Binary Output
- Binary Value
- Multi State Input
- Multi State Output

- Multi State Value
- Notification Class
- Event Enrollment
- Calendar
- Schedule
- File
- Trend Log
- Trend Log Multiple
- Loop

- Accumulator
- Network Port
- Life Safety Point
- Life Safety Zone
- Averaging
- Command
- Group
- Program
- Load Control
- Structured View

- Character String Value
- Date Time Value
- Octet String Value
- Lighting Output
- Binary Lighting Output
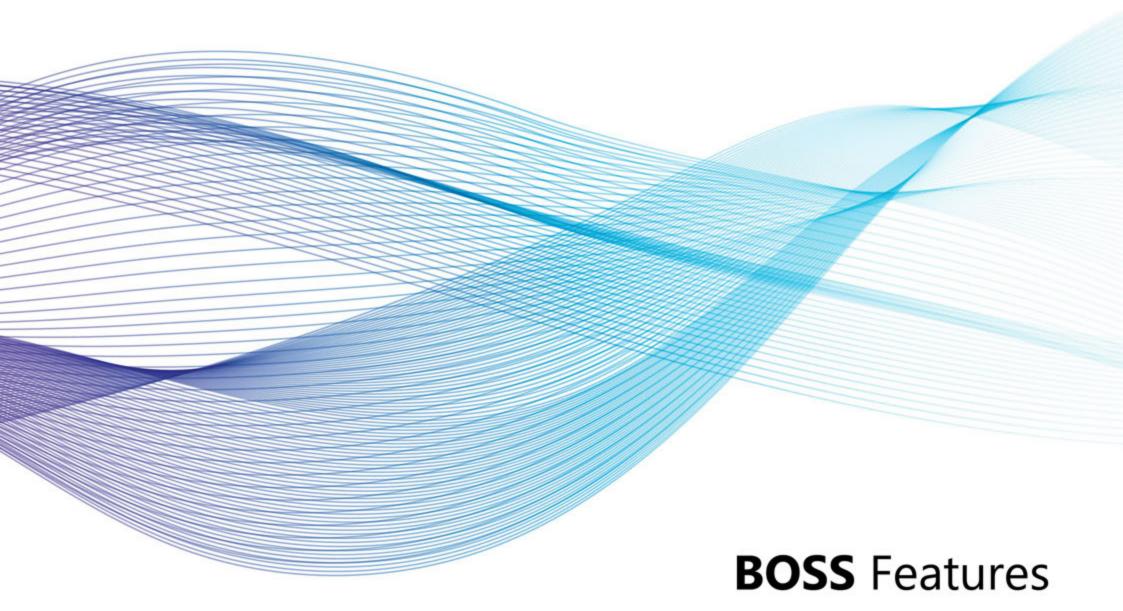- Timer
- Elevator Group

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Supported Objects (Server Profile)

Service Classification	Features	Initiate	Execute
Alarm & Event	Acknowledge Alarm	✗	✓
	Confirmed COV Notification	✓	✓
	Unconfirmed COV Notification	✓	✓
	Confirmed Event Notification	✓	✗
	Unconfirmed Event Notification	✓	✗
	Get Alarm Summary	✓	✓
	Get Enrollment Summary	✗	✓
	Get Event Information	✓	✓
	Subscribe COV	✓	✓
	Subscribe COV Property	✗	✗
File Access	Atomic Read File	✗	✓
	Atomic Write File	✗	✓
Object Access	Add List Element	✗	✓
	Remove List Element	✗	✓
	Create Object	✗	✓

Service Classification	Features	Initiate	Execute
Object Access	Delete Object	✕	✓
	Read Property	✓	✓
	Read Property Multiple	✓	✓
	Read Range	✓	✓
	Write Property	✓	✓
	Write Property Multiple	✕	✓
Remote Device Management	Device Communication Control	✓	✓
	Reinitialize Device	✕	✓
	Time Synchronization	✓	✓
	UTC Time Synchronization	✓	✓
	Who-Is	✓	✓
	I-Am	✓	✓
	Who-Has	✓	✓
	I-Have	✓	✓
BBMD	BBMD, Non-BBMD and FD Functionalities	✓	✓
Segmentation	"APDU Segmentation Configurable (Tx / Rx / Both / None)"	✓	✓

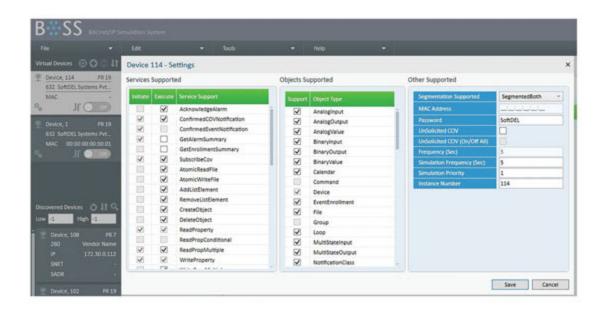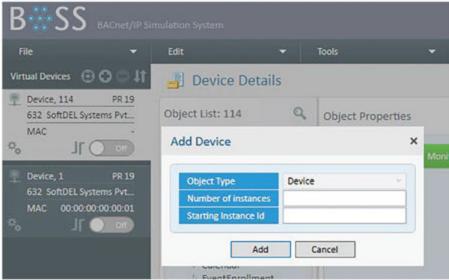**BOSS** Features

Scenario 1

Create virtual device networks

- Create and configure up to **254 standard and custom virtual devices** by selecting different services and objects

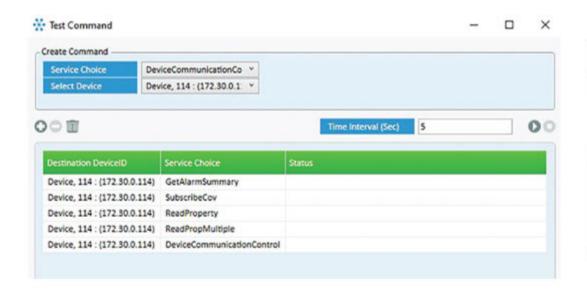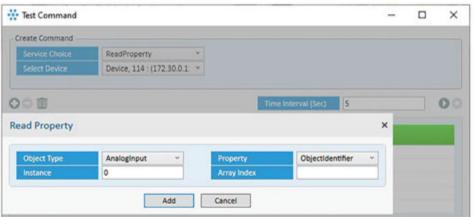- Simulate the device on the virtual network for other devices to discover and interact

Select & configure virtual devices

Create virtual devices

Scenario 2

Generate service commands

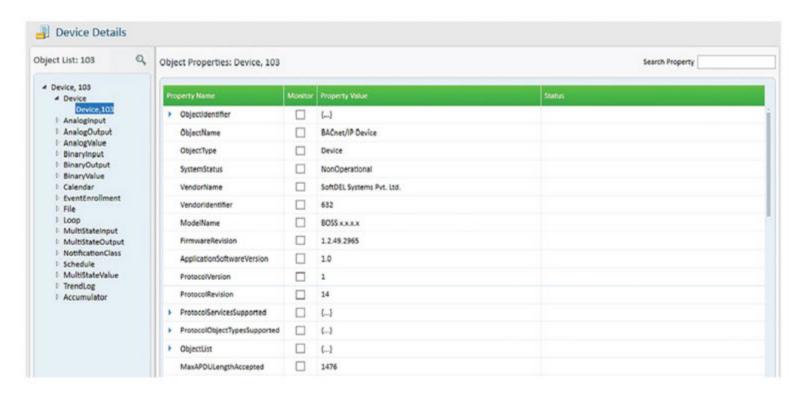- Ability to send BACnet service commands to specific devices on the network

Scenario 3

Device & Object Browsing

- Scan the network and explore all accessible BACnet devices and objects within the devices
- View and modify properties of objects from virtual and discovered devices

Discovered BACnet devices

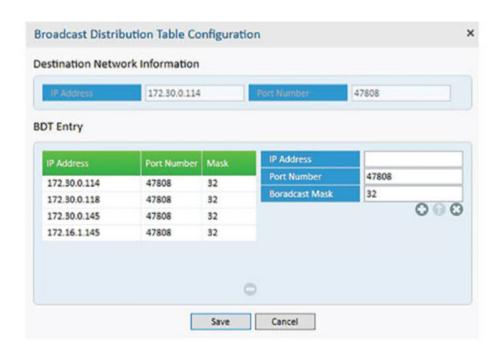**Objects & Properties of Selected discovered device**

Scenario 4

Monitor List

- Select and continuously monitor changes in values in object properties of virtual and discovered devices

Device ID / Vendor Name	Instance ID / Property Name	Property Value	Status
Device, 103 SoftDEL Systems Pvt. Ltd.	Device, 103 FirmwareRevision	1.2.49.2965	
Device, 103 SoftDEL Systems Pvt. Ltd.	AnalogInput, 0 PresentValue	10	
Device, 103 SoftDEL Systems Pvt. Ltd.	AnalogOutput, 0 OutOfService	False	
Device, 103 SoftDEL Systems Pvt. Ltd.	Calendar, 0 PresentValue	False	
Device, 103 SoftDEL Systems Pvt. Ltd.	BinaryInput, 0 Polarity	Normal	
Device, 103 SoftDEL Systems Pvt. Ltd.	BinaryInput, 0 AlarmValue	Active	
Device, 103 SoftDEL Systems Pvt. Ltd.	BinaryInput, 0 ChangeOfStateCount	0	
Device, 103 SoftDEL	BinaryInput, 0	SoftDEL's BACnet/IP	

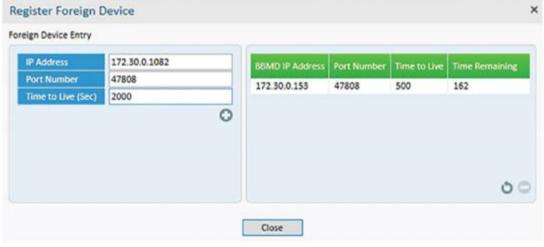Select Device All   Go to Settings to   Refresh Interval 5 ws.

Scenario 5

BBMD (BACnet Broadcast Management Device) support

- Explore and access multiple BACnet networks using BBMD functionality
- Configure as BBMD, Non-BBMD or FD

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