

EverBlu

Wireless fixed data collection system

Easy Installation

The EverBlu wireless fixed data collection system is suitable for any meter type (Water, Gas, Heat and Cooling) and for various site topologies, either in urban, suburban or rural environments. Its flexible mesh network structure, using collectors in series, allows readings of meters located in pits, cellars or difficult reading points.

Simple and reliable operation

Unattended operation of the full EverBlu system is possible using the scheduler to automate daily reads and data export to billing systems.

The self-healing function of the EverBlu Access Point allows automatic maintenance of the wireless network and secures the data transmission even in changing radio environment conditions.

Advanced functions

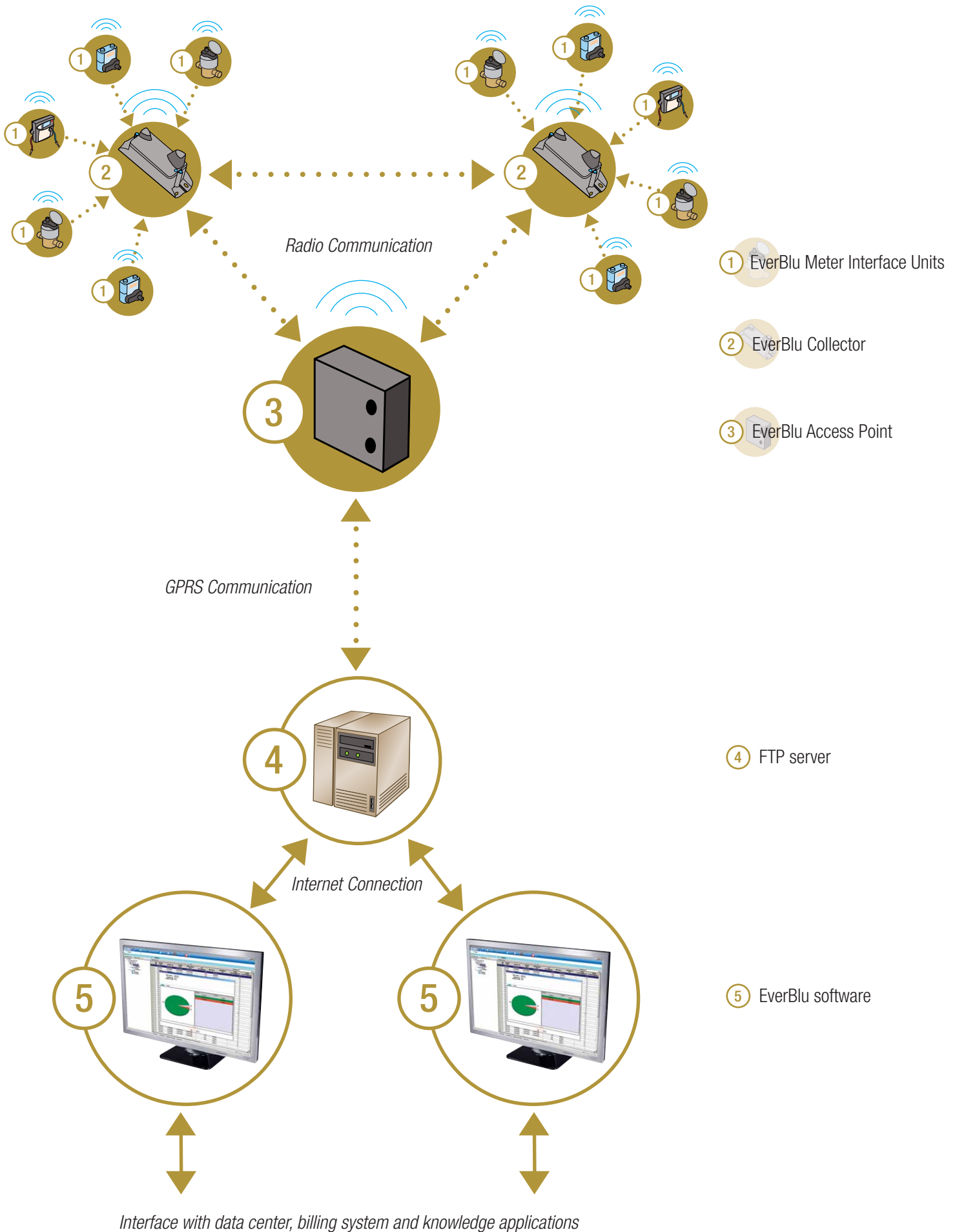
EverBlu offers more than simple meter index reading.

The user interface of the EverBlu software provides the customer service department or the network department with graphical meter data analysis, and quick identification of meter consumption alerts.

Granular meter data can also be transferred to knowledge applications allowing advanced functionalities such as revenue protection, consumption web presentation, demand forecasting, etc...

- > *Automatic daily meter reads*
- > *Graphical data analysis*
- > *Reliable self-healing wireless mesh network*
- > *Suitable for urban, suburban and rural environments*

EverBlu architecture



EverBlu Meter Interface Units (MIUs)

The EverBlu MIU is used to connect any meter to the EverBlu wireless fixed network. Permanently monitoring the meter to which it is attached, it creates a set of granular data that is automatically communicated daily to the utility back-office server. Its radio function remains on duty during working hours to reply to on-request reads from utility operators.

To secure data transmission and avoid radio signal collisions, the EverBlu MIU combines special communication algorithms and daily clock synchronization with the network. In case of communication failure caused by radio disturbances, the EverBlu MIU stores meter information and automatically re-attempts data transmission several times during the current day and the next day.

Using the European RADIANT wireless open protocol, data from EverBlu MIUs can also be collected using AnyQuest, the Itron mobile reading solution. Thus allowing dual-mode collection systems or free migration from walk-by to fixed network systems.

EverBlu Cyble

The intelligent and compact radio module for mounting on Itron water and gas meters. Based on the Cyble technology, EverBlu Cyble offers the exact match between the meter mechanical register and the electronic data to be read remotely.

Patented by Itron, the Cyble technology has become the standard pre-equipment on all Itron water meters, with a few dozen million units installed worldwide from residential meters (DN 15mm) to large size meters (DN 500mm).

In water applications, the EverBlu Cyble transmits not only the 24 hourly meter reading indexes, but also advanced information like:

- > meter oversized / undersized
- > meter blocked
- > backflow
- > leakages
- > overflow
- > tampering

This compact MIU is easily and securely attached to its meter, requiring no wiring or wall mounting. It is usually shipped from the factory already mounted and configured, but can also be quickly retrofitted to meters installed in the field without breaking any metrological seals.

Specially designed to withstand harsh environments, EverBlu Cyble is convenient for all types of installation conditions, from flooded pits to building shafts.

> Water Meter equipped with EverBlu Cyble



> EverBlu Cyble



> Gas Meter equipped with EverBlu Cyble



> EverBlu Board integrated in Heat Meter



> EverBlu Pulse



EverBlu Board

The plug-in board for mounting in Itron heat meters, cooling meters and static water meters.

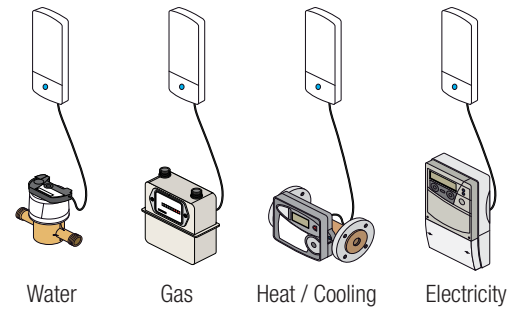
In heat & cooling applications, the EverBlu board transmits not only the energy and volume consumption information but also network parameters (flow-rate, instantaneous power, temperature difference, inlet temperature, outlet temperature).

This board is easily plugged in the meter, requiring no wiring or wall mounting. It is usually shipped from the factory already mounted and configured, but can also be quickly retrofitted to meters installed in the field without breaking any metrological seals.

EverBlu Pulse

The universal MIU for connecting any meter equipped with a pulse output to the EverBlu wireless fixed network.

This MIU is easily wired to the meter pulse output, with a special signal for cable-cut detection. During installation, the EverBlu Pulse is configured to match the initial meter index and its pulse value.



Radio Frequency Features	EverBlu Cyble	EverBlu Board	EverBlu Pulse
Frequency		433 MHz	
Maximum power		10mW	
Meter connection	Cyble technology	Plug-in	Wire connection
Back-up memory	2 days of data	2 days of data	2 days of data
Battery typical lifetime *	10-years	10-years or using the meter power supply	10-years
Case protection	Outdoor submersible (IP68)	NA	Outdoor submersible (IP68)
Operating temperature range	-10°C / +55°C**	-10°C / +55°C**	-10°C / +55°C**
Accidental temperature range	-20 °C / +70°C	-20 °C / +70°C	-20 °C / +70°C

* under normal applications within specified operating temperature range

** - Operation : +5°C to +35°C

- Min operational temperature : -10°C (< 15 days / year)

- Max operational temperature : +55°C (< 15 days / year)

- Storage : +5°C to +35°C

- Transport : Min -20°C (< 24 hours continuous)

Max +70°C (< 24 hours continuous)

EverBlu collectors

EverBlu Collectors are dual-band radio routers used to collect meter reads from the EverBlu MIUs installed at the end points of the network.

Each collector automatically receives, once a day, data from a group of EverBlu MIUs using Low-Power radio frequency. To guarantee data collection, the EverBlu Collector initiates a bi-directional data communication with any EverBlu MIU that fails its daily transmission attempts.

Meter data are stored in the EverBlu Collector, then transmitted once a day to the EverBlu Access Point using High-Power radio frequency.

If the EverBlu Collector is not in the direct range of the EverBlu Access point, it can use any other EverBlu Collector as a relay. Using up to five Collectors in series makes it possible to read meters installed in tough locations such as cellars, pits or for rural environment.

> EverBlu Collector



Communication with EverBlu MIUs	frequency	433 MHz
	maximum power	10mW
Communication with EverBlu Access Point or other EverBlu Collectors	frequency band	868 MHz
	maximum power	200mW
Direct link capacity	up to 50 EverBlu MIUs	
Relay mode	maximum 5 Collectors in series	
Back-up memory	10 days of data	
Battery typical lifetime *	10-years *	
Case protection	Indoor / outdoor IP65	
Operating temperature range **	-20°C to +55°C	
Accidental temperature range	-20°C to +70°C	

* under normal applications within specified operating temperature range

** - Operation : -10°C to +40°C

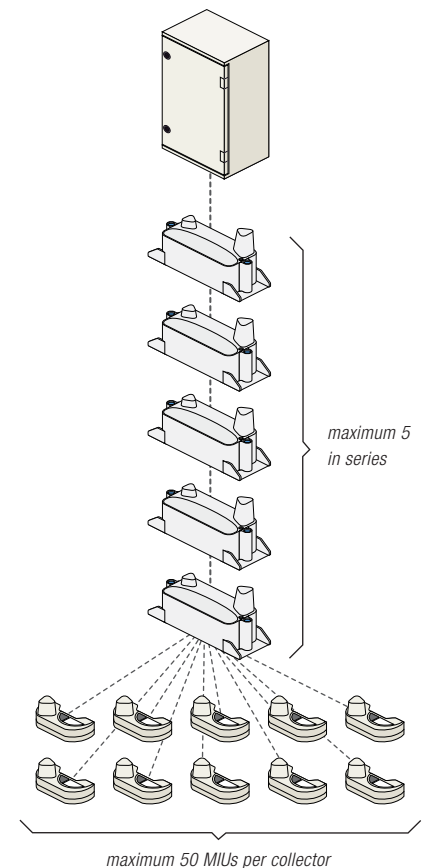
- Min operational temperature : -20°C (< 15 days / year)

- Max operational temperature : +55°C (< 15 days / year)

- Storage : -10°C to +50°C

- Transport : Min -20°C (< 24 hours continuous)

Max +70°C (< 24 hours continuous)



> EverBlu Access Point



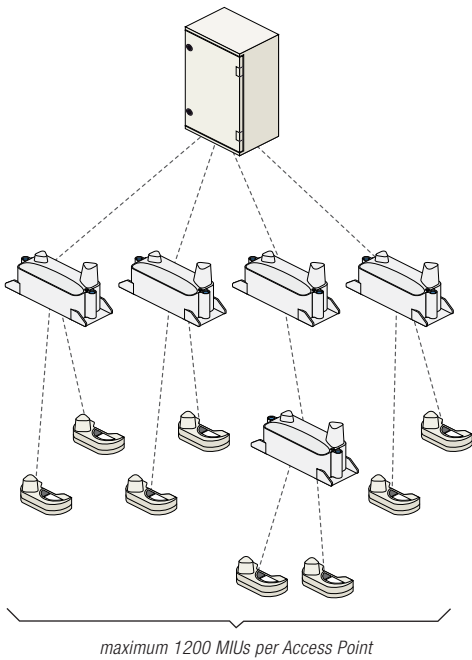
EverBlu Access Point

EverBlu Access Point is installed in the central location of each district and is the core of the wireless mesh network.

The EverBlu Access Point daily collects meter data from all the EverBlu Collectors of its network. Data are then stored over a one year period and uploaded to the back-office server using GPRS communication at pre-set times (typically on a daily basis).

EverBlu Access Point regularly monitors the Received Signal Strength Indicators between all EverBlu collectors. Thus giving it the unique ability to automatically re-define the best radio communication paths to always receive meter reads.

To benefit from the latest developments of the Access Point firmware, over-the-air upgrade is managed directly from the back-office server using the GPRS connection.



Communication with EverBlu Collectors	frequency	868 MHz
	maximum power	200mW
Communication with back-office FTP server	GPRS	900/1800/1900 MHz
Collection capacity		255 EverBlu Collectors
		1200 EverBlu MIUs
Back-up memory		365 days of data
Power supply	Main power	- 110/240 Vac - 50/60 Hz
Case protection		Indoor IP54
Operating temperature range		-20°C to +50°C
Storage temperature range		-20°C to +65°C

FTP server

The FTP server gathers data from all the EverBlu Access Points and makes it available through an Ethernet connection for use by multiple operators using EverBlu software.

There is virtually no limit to the number of EverBlu Access Points that can be part of EverBlu network allowing unlimited scalability of the system.

Hard drive capacity	depends on the number of metering points and storage period (example : 100 MB for 20,000 meters and 1 year storage)
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EverBlu Software

EverBlu software is the main element that pilots the EverBlu data collection system from the utility side.

1/ Wireless mesh network manager

EverBlu software allows easy configuration and maintenance of the fixed network infrastructure.

The meter list and the network infrastructure is automatically populated in EverBlu software using a direct download from the EverBlu Access Points, hence avoiding a long software set-up process.

Installation of new EverBlu MIU in the existing network is very easy whenever necessary.

Monitoring of the wireless mesh network is made simple using EverBlu detailed statistical analysis of reading rate in calendar view. For detailed maintenance, operators can monitor Received Signal Strengths Indicators for every network node.

2/ Data collection and export manager

Daily data are automatically downloaded from the FTP server for analysis by the operators or for exportation to the data center, billing system and knowledge applications.

The EverBlu system runs fully unattended thanks to the scheduler function that can be programmed to initiate daily meter reads from the FTP server and automatic exports to the billing system.

Alternatively, operators can launch on-request reads directly from the EverBlu software and quickly obtain the actual meter values.

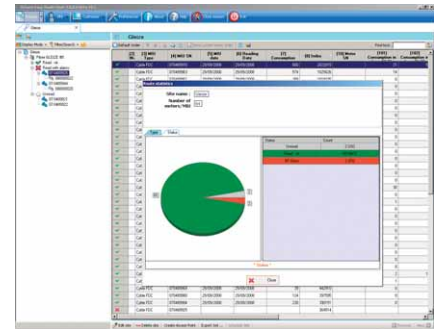
In addition, EverBlu includes the latest version of AnyQuest, powerful route management software for mobile meter reading application. EverBlu allows, with a single tool, management of data collected through fixed network and mobile systems.

3/ Data visualization

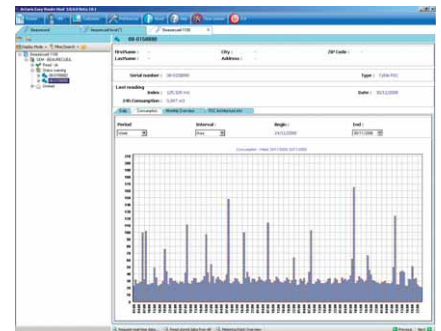
Using EverBlu software, operators can get graphical analysis of the meter data. For each meter, the consumption curve is available with zooming, printing and export functions. The full log of consumption alarms (backflow, leakage, etc. . .) is displayed with clear icons.

Meter reads are easily filtered and exported using various export formats. Standard format is XML, but other ones (CSV, TXT, etc. . .) can easily be plugged-in to tailor the interface with any system.

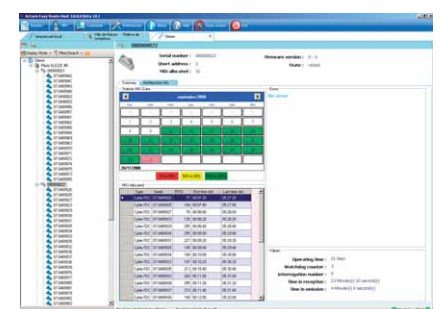
> Data collection and export manager



> Data visualization



> Wireless mesh network manager



Database management	SQL Server 2005 ** (automatic installation included with EverBlu Software)
Minimum computer requirements	800MHz Pentium* type processor RAM 512 MB Hard drive 1GB Display 1024*768 Operating system Windows ** XP SP2, Vista, 2003 Server, 2008 server Internet connection PSTN external line + modem (optional)

* Pentium is a trademark of Intel

** Windows and SQL Server 2005 are trademarks of Microsoft

Support services

Itron supports its clients throughout their project management process, bringing extensive technical, industrial and product experience for end-to-end solutions from Metering points to Knowledge applications.

Committed to its customers, Itron has developed a worldwide network of regional customer service teams. Whatever the region, the time zone and the language, Itron can provide a global service offer from technical feasibility to deployment and maintenance to make the operations of wireless fixed network a success.

Preliminary services:

- Help the utility design the optimum wireless network architecture based on actual field conditions using EverBlu site survey tools.
- Benefiting from Itron long experience in fixed network projects, provide guidance to the utility in building a global business plan based on a real financial and operational environment.

Deployment services

- Help the utility roll-out the solution from pilot to large-scale deployments following structured methodology.
- Interface the EverBlu software with existing data centers and expert systems (CIS/CRM, GIS, etc...).

EverBlu Site survey tools

Because evaluating a site without knowing the actual radio field conditions is impossible, Itron offers user-friendly tools to help the installation team define the optimum location of each component (EverBlu Access Point and EverBlu collectors) and anticipate the overall network costs.

After sales services

- Train operation teams on configuration tools and EverBlu software
- Accompany the utilities through the ramp-up phase until reaching the expected reading rate levels
- Run the EverBlu system for the utility and transfer meter data regularly.
- Support system efficiency through time with specific maintenance contracts and hot-line services

For more details on Itron service offer, please contact your regional representative.

> **EverBlu Site survey tools**



About Itron Inc.

Itron Inc. is a leading technology provider to the global energy and water industries. Our company is the world's leading provider of metering, data collection and utility software solutions, with nearly 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water. Our products include electricity, gas and water meters, data collection and communication systems, including automated meter reading (AMR) and advanced metering infrastructure (AMI); meter data management and related software applications; as well as project management, installation, and consulting services. To know more, start here: www.itron.com

For more information, contact your local sales representative or agency.

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