A Plug-And-Play Solution For IT…

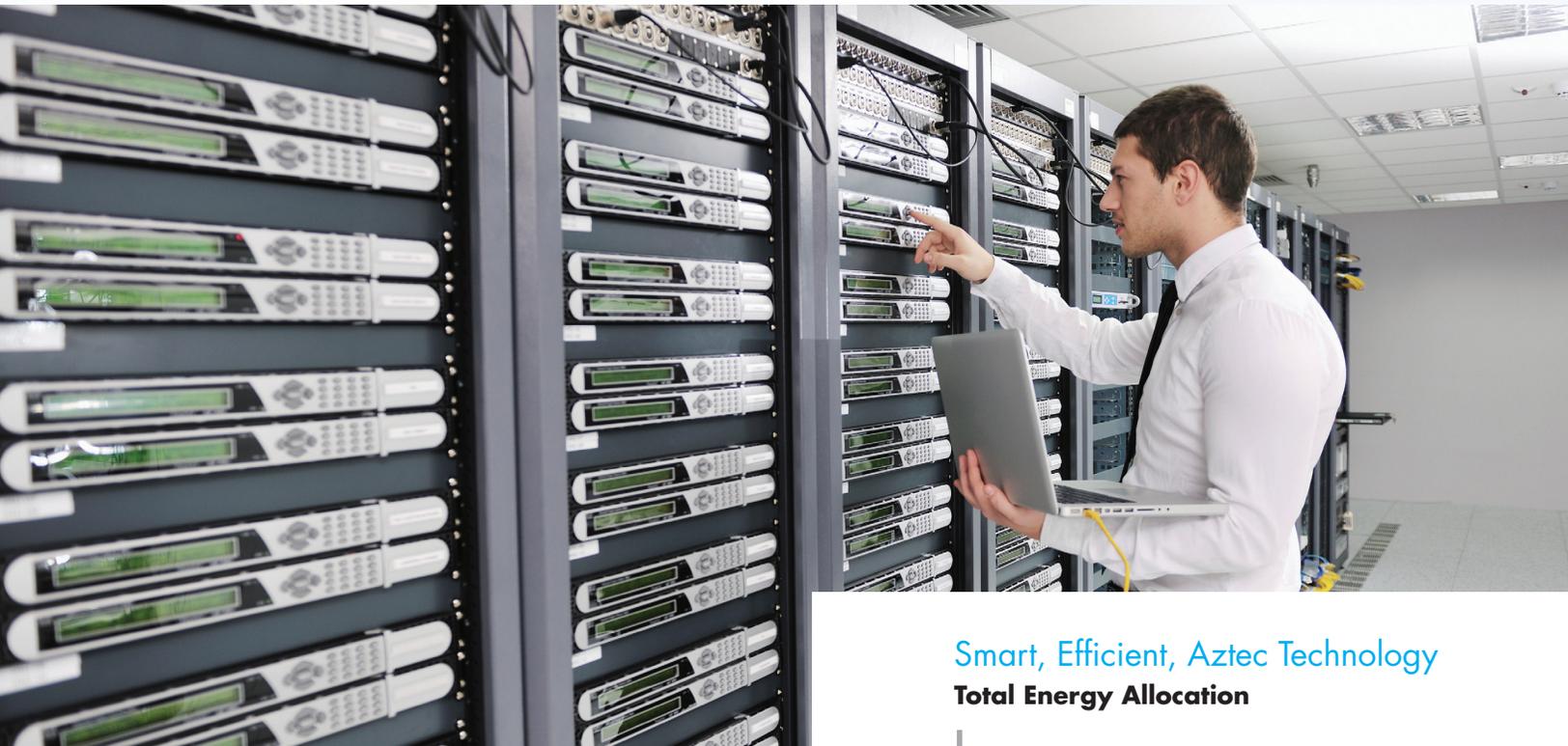## That's Cool

AZTEC

Indirect And Indirect/Direct Evaporative Units For IT Applications

AZTEC
Evaporative Units

It's A **Hot** Topic,
And Aztec Has The Solution

Smart, Efficient, Aztec Technology
Total Energy Allocation

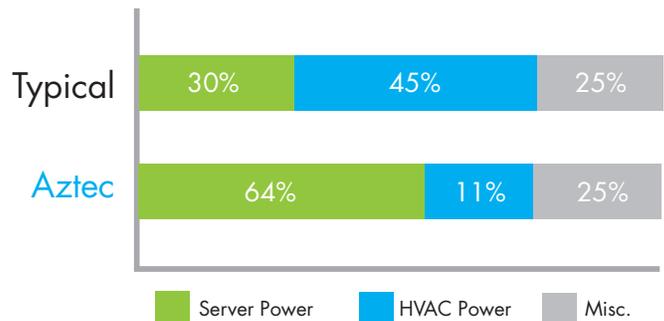|	Server Power	HVAC Power	Misc.
Typical	30%	45%	25%
Aztec	64%	11%	25%

- Server Power
- HVAC Power
- Misc.

Reducing your center's PUE has become a critical issue, and rightfully so. The more actual and personal energy you can devote to your servers, the more profitable your business can be. With today's state-of-the-art data centers and server farms targeting a PUE of 1.2–1.4, you need a cost-effective solution that keeps pace with best practices—now and down the road.

Aztec Indirect and Indirect/Direct Evaporative Cooling Units are an energy-efficient solution that creates an optimal environment for server performance while lowering your data center's PUE. Our self-contained, roof-mounted units cool and filter the air delivered to your data center, allowing you to easily achieve the current ASHRAE guidelines for operating conditions without in-rack, in-room, or conventional HVAC technologies.

Energy efficient, digitally monitored, and scalable, the Aztec system is a cost-effective cooling solution that lets you dedicate more energy to the technologies that run your business.

To Your PUE Challenges

Spend Your Energy Wisely

The majority of your time, money, and resources should be invested in the technologies that drive your business, not the systems that support it. Aztec is an energy-efficient, cost-effective solution that requires 70% less energy than traditional HVAC solutions to achieve recommended data center conditions for temperature. That's 70% more power to put to your company's capabilities.

Aztec even outperforms the competition in terms of effectiveness. For example, to attain the recommended temperature in a server room of 150 fully loaded racks running flat out, it would take 36 standard direct expansion (DX) units to the Aztec's 20. Any way you look at it, investing in Aztec for your HVAC needs is going to get you the biggest return.

Out Of Sight, Out Of Mind

The last thing on your mind is your data center's support systems—and that's because Aztec has your HVAC needs covered. Our roof-mounted, self-contained units are zero-white-space solutions that easily scale as technology and business demands grow. And since the unit is digitally monitored, you can easily keep an eye on the data room environment as you focus your efforts on figuring out ways to optimize the additional free space.

Support When And Where It Counts

Just like your clients, you expect a professional to be available whenever and wherever you're faced with a HVAC challenge—your uptime depends on it. Aztec is an American-made system by an American-owned company.
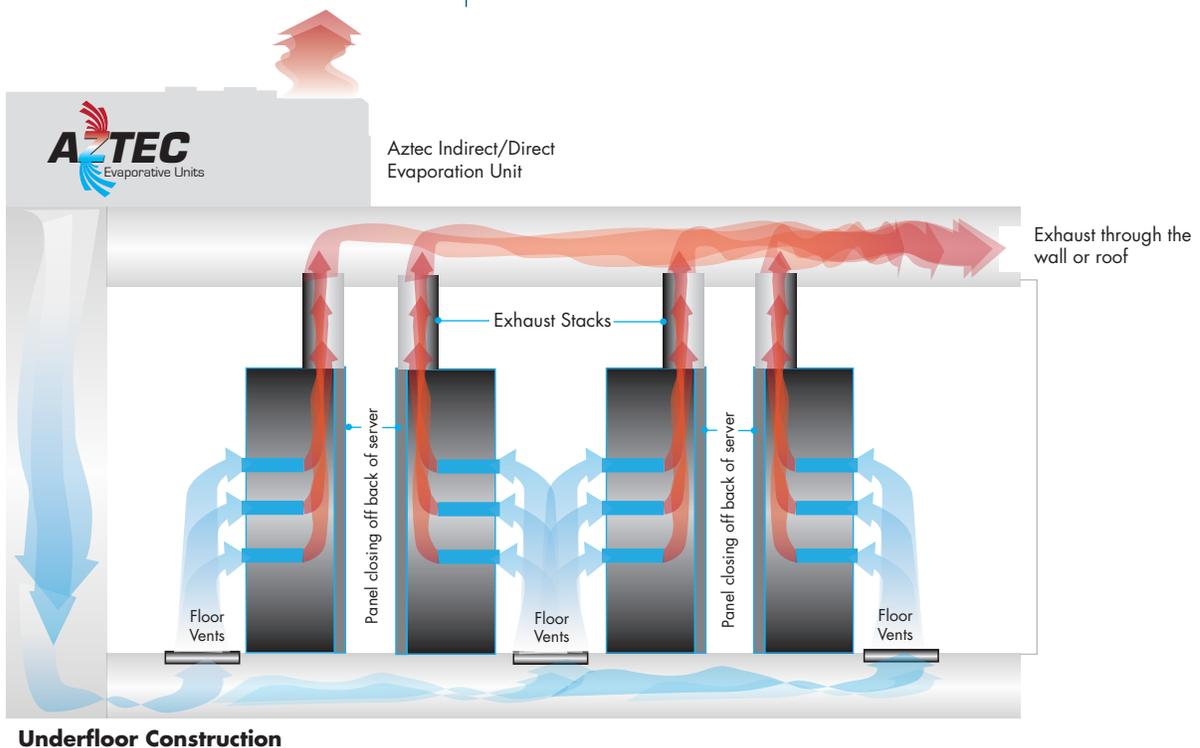
Forget Upgrades
This Plug-And-Play System Won't

Besides energy efficiency and zero-white-space usage, there's another reason that evaporative cooling is gaining traction as the best way to keep your data center's environment at an optimum level: flexibility.

Aztec uses a process called evaporative cooling, where the heat is removed from the air entering the building. This air replaces the hotter air in the data center to create optimal operating conditions. So even in some of the hottest parts of the country, Aztec can provide the right amount of cooling effectively, for a fraction of the cost and energy consumption of standard systems.

Entering Air Temperature °F (Dry Bulb / Wet Bulb)	Leaving Air Temperature °F (Dry Bulb / Dew Point) and Relative Humidity
85° / 68°	72.3° / 58.9° / 62.8%
90° / 70°	75.0° / 59.6° / 58.7%
95° / 70°	76.3° / 56.5° / 50.3%
100° / 72°	79.0° / 57.9° / 48.6%
105° / 72°	80.3° / 54.7° / 41.4%
110° / 70°	80.0° / 44.8° / 28.9%

Aztec Indirect/Direct Evaporation Unit

Exhaust through the wall or roof

Exhaust Stacks

Panel closing off back of server

Floor Vents

Underfloor Construction

Aztec units are self-contained, digitally monitored systems that come fully tested and ready for installation, right from the factory. Installed on the roof, they are easily integrated into existing ventilation systems—as standalone units or incorporated into an air-handling unit (AHU)—and work with and without under-floor constructions.

Get Old Any Time Soon.

Evaporative Cooling Is Hot

Some of the largest IT firms have recognized the many benefits of evaporative cooling and incorporated these cost-effective systems into their state-of-the-art centers. But achieving PUEs of 1.2–1.4 and maintaining temperatures in line with ASHRAE's latest guidelines aren't the only reasons companies have selected evaporative cooling units as part of their best practice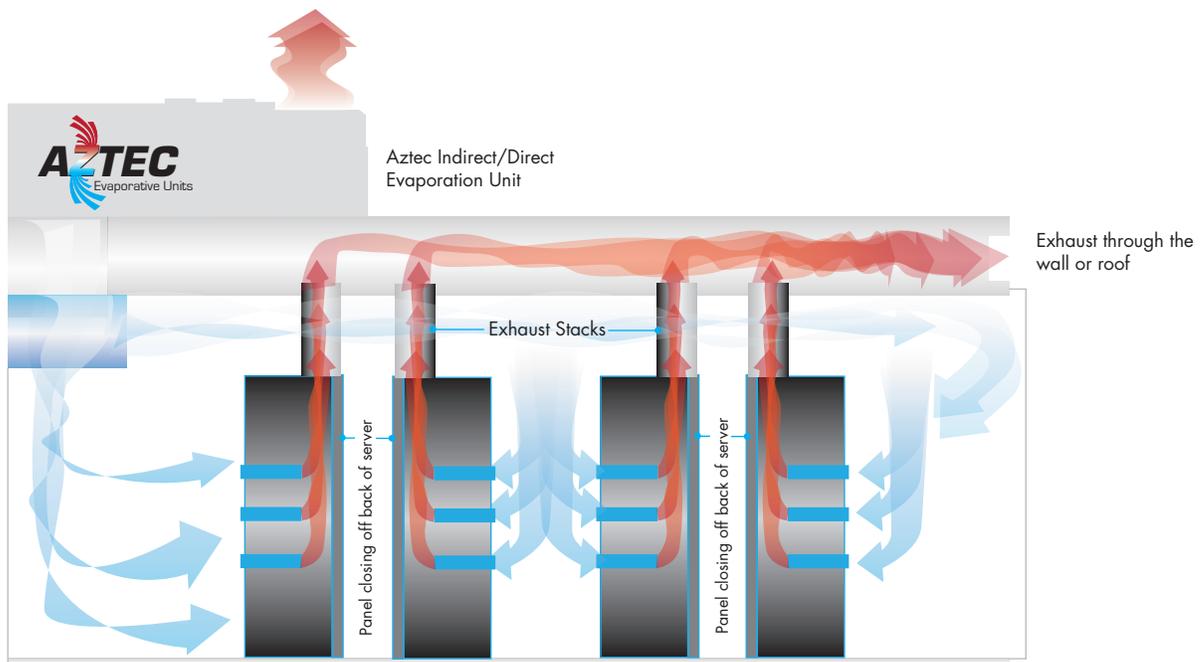s. Aztec Indirect and Indirect/Direct Evaporative Cooling Units are a green cooling solution. Our systems are both energy efficient and chlorofluorocarbon (CFC) free, and count toward your building's LEED certification.

The IT Manager's Long-Term Solution

Since 1969, Aztec has been designing, refining, and manufacturing Indirect and Indirect/Direct Evaporative Units for exceptional durability, reliability, and effectiveness. One Aztec unit can handle the environmental needs of up to eighteen 42U racks operating at maximum levels, so your server capacity drives the number of units necessary. As your business grows, additional Aztecs are simply installed to meet increased demands, without major renovations or the purchase of additional components. This scalability reduces capital costs of expansion, allowing you to put more funding toward the technologies your business depends on.
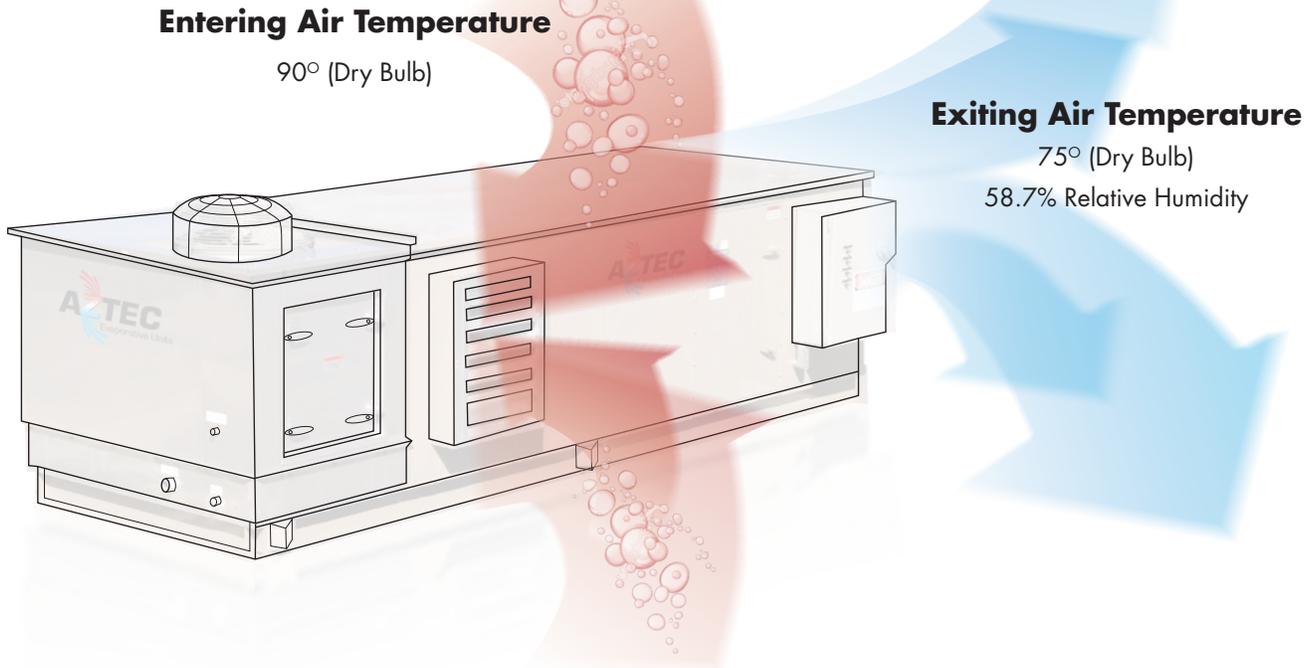
Aztec Indirect/Direct Evaporation Unit

Exhaust through the wall or roof

Exhaust Stacks

Panel closing off back of server

Panel closing off back of server

Without Underfloor Construction

Standard Operating System:
In The Evaporative Cooling System Market,

Aztec Indirect and Indirect/Direct Evaporative Cooling Units outperform in-rack, in-room, and conventional HVAC systems in energy efficiency, cost effectiveness, white-space usage, and dependability. They even outmatch the other evaporative units on the market, offering more flexibility, functions, and features than any other system, standard.

Entering Air Temperature

90° (Dry Bulb)

Exiting Air Temperature

75° (Dry Bulb)

58.7% Relative Humidity

Aztec ASC Standard Features

Handle One to Eighteen 42U Racks per Unit

Indirect or Indirect/Direct Evaporative Operation

Cooling-Only or Cooling-Heating Systems

DDC Controls with Internet Access

CFC Free (Toward LEED Certification)

DHTD "Digital High Turndown" Burner Heating Technology

1,500–37,500cfm Range

VFD Capable

Stainless Steel Evaporative Sections

Fiberdek UL900cl2 Media

Duradek Edge Coating

Cleanable Media Pre-Filters

Internal Seismic Rated Fan/Motor Isolation

Fully Welded Floor Pans

Automatic Fill and Drain System

Aztec's Features Are Unmatched

Thermal Performance Per 1,000 Cfm — Indirect Evaporative Cooling Units

EAWB	Entering Air Temperature Dry Bulb Temp. (EADB)															
°F	80° F		85° F		90° F		95° F		100° F		105° F		110° F		115° F	
WB	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU
56	5.7	19,440	6.9	23,490	8.1	27,540	9.3	31,590	–	–	–	–	–	–	–	–
58	5.2	17,820	6.4	21,870	7.6	25,920	8.8	29,970	10.0	34,020	–	–	–	–	–	–
60	4.7	16,200	5.9	20,250	7.1	24,300	8.3	28,350	9.5	32,400	10.7	36,450	–	–	–	–
62	4.3	14,580	5.5	18,630	6.6	22,680	7.8	26,730	9.0	30,780	10.2	34,830	11.4	38,880	–	–
64	3.8	12,960	5.0	17,010	6.2	21,060	7.4	25,110	8.5	29,160	9.7	33,210	10.9	37,260	12.1	41,310
66	3.3	11,340	4.5	15,390	5.7	19,440	6.9	23,490	8.1	27,540	9.3	31,590	10.4	35,640	11.6	39,690
68	2.8	9,720	4.0	13,770	5.2	17,820	6.4	21,870	7.6	25,920	8.8	29,970	10.0	34,020	11.2	38,070
70	2.4	8,100	3.6	12,150	4.7	16,200	5.9	20,250	7.1	24,300	8.3	28,350	9.5	32,400	10.7	36,450
72	1.9	6,480	3.1	10,530	4.3	14,580	5.5	18,630	6.6	22,680	7.8	26,730	9.0	30,780	10.2	34,830
74	1.4	4,860	2.6	8,910	3.8	12,960	5.0	17,010	6.2	21,060	7.4	25,110	8.5	29,160	9.7	33,210
76	0.9	3,240	2.1	7,290	3.3	11,340	4.5	15,390	5.7	19,440	6.9	23,490	8.1	27,540	9.3	31,590
78	0.5	1,620	1.7	5,670	2.8	9,720	4.0	13,770	5.2	17,820	6.4	21,870	7.6	25,920	8.8	29,970
80	–	–	1.2	4,050	2.4	8,100	3.6	12,150	4.7	16,200	5.9	20,250	7.1	24,300	8.3	28,350
82	–	–	0.7	2,430	1.9	6,480	3.1	10,530	4.3	14,580	5.5	18,630	6.6	22,680	7.8	26,730
84	–	–	0.2	810	1.4	4,860	2.6	8,910	3.8	12,960	5.0	17,010	6.2	21,060	7.4	25,110

Notes: 1. Indirect evaporative cooling performance is based on 75% saturation efficiency.

Thermal Performance Per 1,000 Cfm — Indirect/Direct Evaporative Cooling Units

EAWB	Entering Air Temperature Dry Bulb Temp. (EADB)															
°F	80° F		85° F		90° F		95° F		100° F		105° F		110° F		115° F	
WB	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU
56	9.5	32,556	11.5	39,314	13.6	46,358	15.7	53,592	–	–	–	–	–	–	–	–
58	8.7	29,605	10.7	36,364	12.7	43,502	14.7	50,071	16.8	57,305	–	–	–	–	–	–
60	7.8	26,464	9.7	33,033	11.7	39,982	13.8	46,930	15.7	53,689	17.7	60,448	–	–	–	–
62	6.9	23,514	8.8	30,177	10.8	36,841	12.9	43,885	14.8	50,358	16.7	57,022	18.7	63,971	–	–
64	6.1	20,753	8.0	27,322	9.9	33,795	11.9	40,649	13.9	47,313	15.8	53,786	17.8	60,735	19.8	67,494
66	5.3	18,183	7.2	24,561	9.2	31,225	11.0	37,603	13.0	44,362	14.9	50,836	16.8	57,404	18.9	64,353
68	4.5	15,422	6.4	21,801	8.3	28,464	10.2	34,938	12.1	41,316	14.0	47,885	16.0	54,454	17.9	61,117
70	3.7	12,567	5.6	18,945	7.5	25,609	9.4	31,987	11.2	38,271	13.1	44,839	15.1	51,408	16.9	57,596
72	2.7	9,331	4.8	16,470	6.6	22,658	8.5	29,037	10.4	35,415	12.2	41,794	14.1	48,267	16.1	54,836
74	2.2	7,521	4.0	13,805	5.9	20,088	7.7	26,371	9.6	32,750	11.4	39,033	13.3	45,317	15.2	51,695
76	1.6	5,331	3.3	11,234	5.1	17,518	7.0	23,801	8.8	29,894	10.6	36,178	12.4	42,461	14.3	48,840
78	0.7	2,475	2.5	8,474	4.3	14,662	6.1	20,946	8.0	27,229	9.8	33,512	11.6	39,701	13.5	45,984
80	–	–	1.8	5,998	3.6	12,187	5.4	18,280	7.1	24,373	8.9	30,467	10.8	36,750	12.6	43,034
82	–	–	1.1	3,618	2.9	9,806	4.7	15,900	6.4	21,898	8.2	27,991	10.0	34,085	11.7	40,083
84	–	–	0.3	1,143	2.1	7,331	4.0	13,519	5.7	19,518	7.5	25,611	9.3	31,704	11.0	37,703

Notes: 1. Indirect evaporative cooling performance is based on 75% saturation efficiency.
2. Direct evaporative cooling performance is based on 88% saturation efficiency.

A truly plug-and-play system for IT applications, Aztec is one piece of performance technology that won't get outdated.

Contact your Aztec Representative or visit www.aztec-server-cooling.com to learn more.

Made in USA

AZTEC
Evaporative Units

MESTEK, INC.

Indirect and Indirect/Direct Evaporative
Units for IT Applications

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