THE CHANNEL

| Channel Issues and Advice |

Feb 2015

Contents

This Service has been designed specifically for Senior level Channel executives. It provides guidance and highly strategic advice on the channels focussing on the issues of which Senior Channel Executives should be aware. It will guide the management team on the impact of competitor announcements, insights into the market, brief focus on services sub-segments, value stack, vertical focus and Key Director Messages.

1 SLA – Senior Level Advisor

Samsung s6 edge

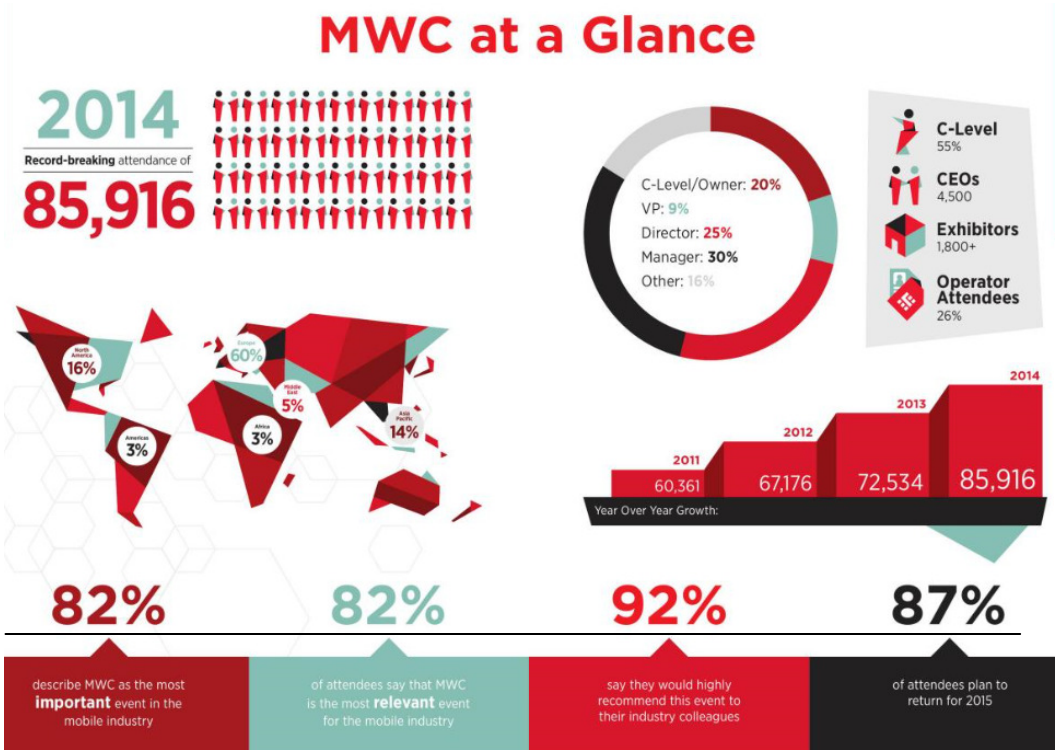
The Samsung launch

Pebble Time broke Kickstarter records (the author recorded 19k steps on day 1)

Mobile World Congress

This event was the largest ever with Hall 8 being utilized for the first time.

2014 Infographic



Conclusion

Network Function Virtualization (NFV) dominated with HP announcing its first Service Provider win with Telefonica's UNICA infrastructure.

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2) Key Announcement Implications

2 Key Announcement Implications

Ericsson Mobility Report

The number of mobile broadband subscriptions grew even faster – at a rate of 30 per cent year-on-year, reaching 2.5 billion and data usage per subscription also continued to grow steadily. 65–70 percent of all mobile phones sold in Q3 2014 were smartphones. Together, these factors have contributed to a 60 per cent growth in mobile data traffic during the 12 months following Q3 2013.

The number of mobile subscriptions worldwide grew approximately 6 per cent year-on-year during Q3 2014

KEY FIGURES

*Using active VLR subscriptions for India
**Monthly data traffic volumes by year end
***Active devices

Mobile subscription essentials	2013	2014	2020 forecast	CAGR 2014–2020	Unit
Worldwide mobile subscriptions*	6,700	7,100	9,500	5%	million
> Smartphone subscriptions	1,900	2,700	6,100	15%	million
> Mobile PC, tablet and mobile router subscriptions	250	300	650	15%	million
> Mobile broadband subscriptions	2,200	2,900	8,400	20%	million
> Mobile subscriptions, GSM/EDGE-only	4,200	4,000	1,100	-20%	million
> Mobile subscriptions, WCDMA/HSPA	1,600	2,000	4,400	15%	million
> Mobile subscriptions, LTE	200	400	3,500	45%	million

Traffic essentials**	2013	2014	2020 forecast	CAGR 2014–2020	Unit
> Monthly data traffic per smartphone***	700	900	3,500	25%	MB/month
> Monthly data traffic per mobile PC***	3,300	4,300	15,000	25%	MB/month
> Monthly data traffic per tablet***	1,400	1,900	7,600	25%	MB/month
Total monthly mobile data traffic	2	3.2	25	40%	EB/month
Total monthly fixed data traffic	30	40	140	25%	EB/month

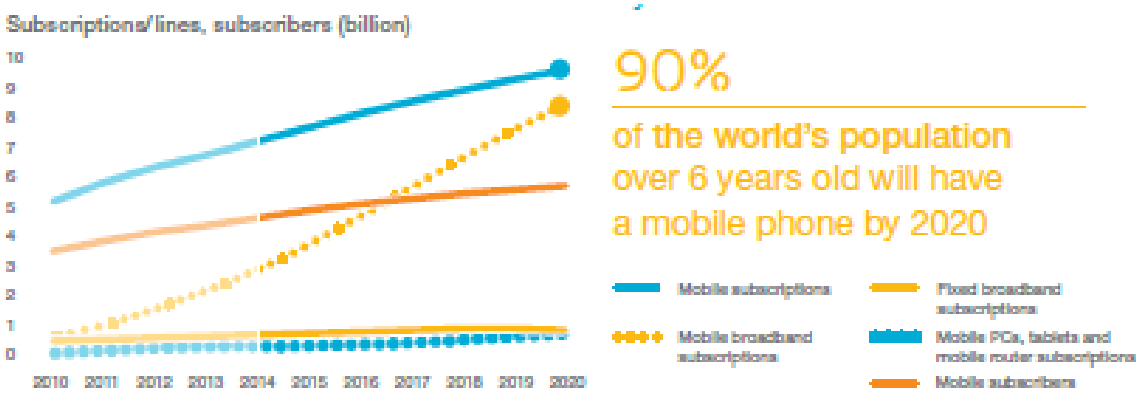
Mobile traffic growth forecast	Multiplier 2014–2020	CAGR 2014–2020
All mobile data	8	40%
> Smartphones	8	40%
> Mobile PC	3	20%
> Tablets	15	60%

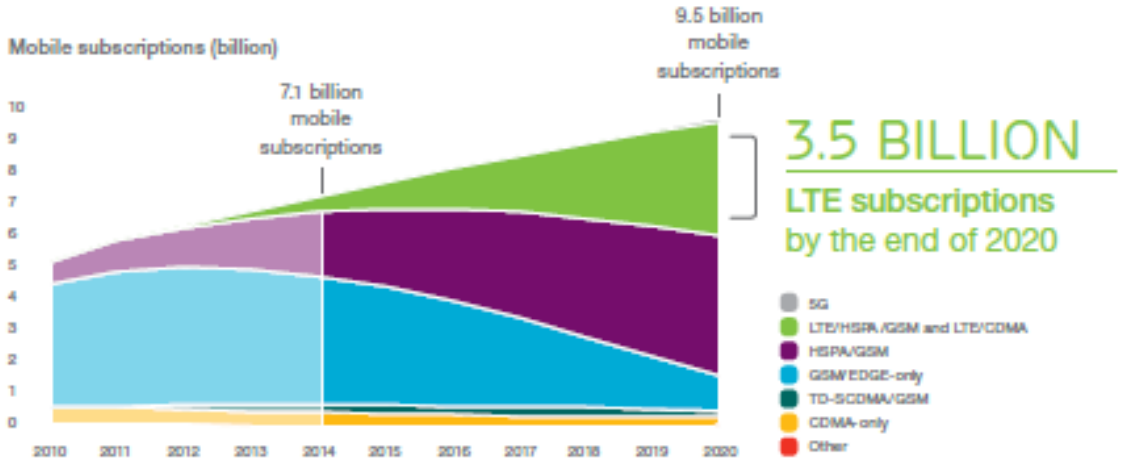
The number of mobile broadband subscriptions grew even faster – at a rate of 30 per cent year-on-year, reaching 2.5 billion and data usage per subscription also continued to grow steadily. 65–70 per cent of all mobile phones sold in Q3 2014 were smartphones. Together, these factors have contributed to a 60 per cent growth in mobile data traffic during the 12 months following Q3 2013.

Video continues to dominate mobile networks. In 4G-dominated networks

it typically constitutes 45–55 per cent of mobile traffic. This is driven by increased usage of video streaming and mobilevideo experience improvements

Forecast





Conclusion

One of the main reasons for the rapid growth in smartphone subscriptions is that subscribers in Asia Pacific, the Middle East and Africa are exchanging their basic phones for smartphones. This is partly due to the increased availability of lower cost smartphones. The number of subscriptions exceeds the population in many countries, primarily because not all subscriptions are active, but also because subscribers may have multiple devices – e.g. for business and private use, or to optimize pricing by using different operators for different calls (this is common in parts of Africa). In developed markets users add secondary devices such as tablets. This means that the number of subscribers is lower than the number of subscriptions – the current figures are around 4.6 billion subscribers versus 6.9 billion subscriptions.

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3) In Depth Focus

Authors: Harald Bauer, Mark Patel, and Jan Veira

The Internet of Things: Sizing up the Opportunity

This connectivity trend is now recognized as a source of growth for semiconductor players and their customers. Here we consider the opportunities and constraints for components manufacturers.

The semiconductor industry has been able to weather the fallout from the global financial crisis and realize several years of healthy growth—in part because of the widespread adoption of smartphones and tablets, which created demand for mobile and wireless applications. The industry's average annual growth rate between 2010 and 2013 was about 5 per cent. Could the same sort of growth result from widespread adoption of the Internet of Things? Many semiconductor players have been asking themselves just this question.

The Internet of Things refers to the networking of physical objects through the use of embedded sensors, actuators, and other devices that can collect or transmit information about the objects. The data amassed from these devices can then be analyzed to optimize products, services, and operations. Perhaps one of the earliest and best-known applications of such technology has been in the area of energy optimization: sensors deployed across the electricity grid can help utilities remotely monitor energy usage and adjust generation and distribution flows to account for peak times and downtimes. But applications are also being introduced in a number of other industries. Some insurance companies, for example, now offer plans that require drivers to install a sensor in their cars, allowing insurers to base premiums on actual driving behavior rather than projections. And physicians can use the information collected from wireless sensors in their patients' homes to improve their management of chronic diseases. Through continuous monitoring rather than periodic testing, physicians could reduce their treatment costs by between 10 and 20 per cent, according to McKinsey Global Institute research—billions of dollars could be saved in the care of congestive heart failure alone.

In each of these cases, the connected devices that transmit information across the relevant networks rely on innovations from semiconductor players, highly integrated microchip designs, for instance, and very low-power functions in certain applications. The semiconductor companies that can effectively deliver these and other innovations to original-equipment manufacturers, original-device manufacturers, and others that are building Internet of Things products and applications will play an important role in the development of the market. That market, in turn, may represent a significant growth opportunity for semiconductor players.

Indeed, semiconductor executives surveyed in June 2014 as part of our quarterly poll of the components-manufacturing market said the Internet of Things will be the most important source of growth for them over the next several years. More important, for example, than trends in wireless

computing or big data. McKinsey Global Institute research supports that belief, estimating that the impact of the Internet of Things on the global economy might be as high as $6.2 trillion by 2025.

At the same time, the corporate leaders polled admit they lack a clear perspective on the concrete business opportunities in the Internet of Things given the breadth of applications being developed, the potential markets affected: consumer, healthcare, and industrial segments, among others and the fact that the trend is still nascent.

In this article, we take the pulse of the market for Internet of Things applications and devices. Where along the development curve are the enabling technologies, and where can semiconductor players insert themselves in the evolving ecosystem? We believe components manufacturers may be able to capture significant value primarily by acting as trusted facilitators—it is their silicon, after all, that can enable not just unprecedented connectivity but also long-term innovation across the Internet of Things.

Sizing the opportunity

Three years ago, industry pundits and analysts predicted that, by 2020, the market for connected devices would be between 50 billion and 100 billion units. Today, the forecast is for a more reasonable but still sizable 20 billion or 30 billion units. This leveling off of expectations is in line with what we have seen in past introductions of new technologies. Throughout the late 1990s and early 2000s, for instance, there was much discussion in the semiconductor industry about the potential benefits and implications of Bluetooth technology, but the inflection point for Bluetooth did not happen until 2003 or 2004, when a large enough number of industry players adopted it as a standard and pushed new Bluetooth-based devices and applications into the market. The market for Internet of Things devices, products, and services appears to be accelerating toward just such an inflection point, in view of four critical indicators.

Nest Thermostat

Supplier attention. Internet of Things developer tools and products are now available. Apple, for instance, has released HealthKit and HomeKit developer tools as part of its latest operating-system upgrade, and Google acquired Nest to catalyze the development of an Internet of Things platform and applications.

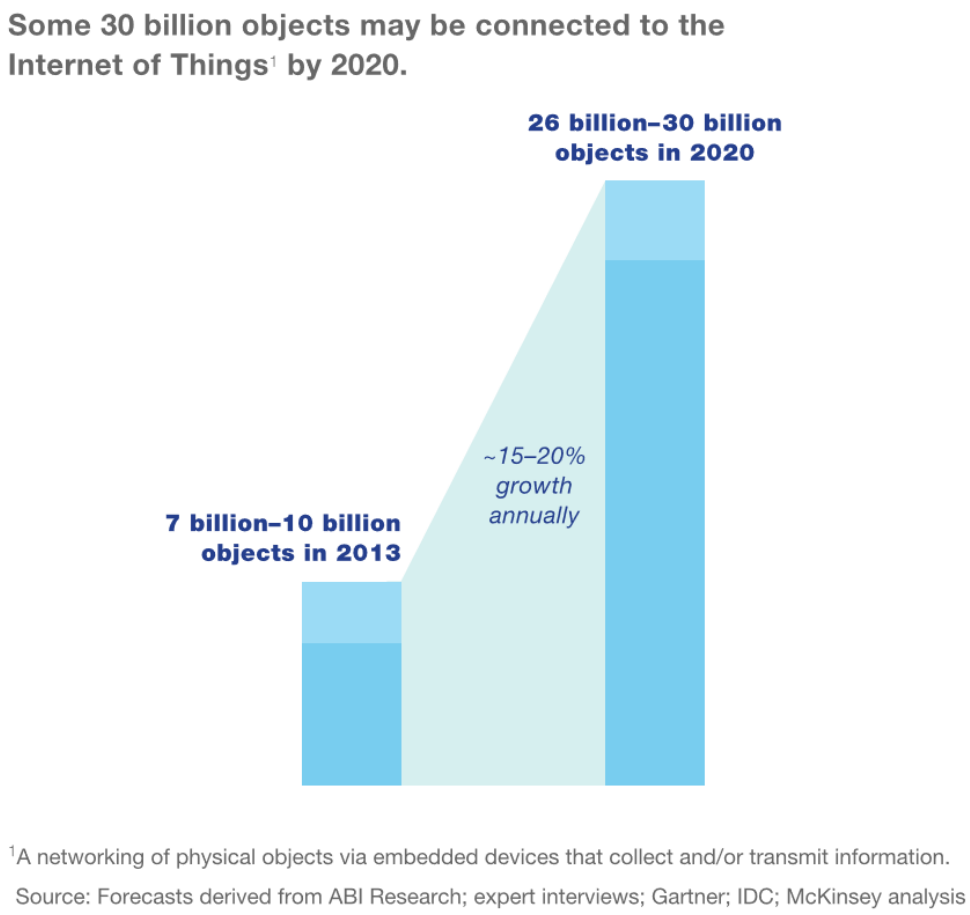
Technological advances. Some of the semiconductor components that are central to most Internet of Things applications are showing much more functionality at lower prices. Newer processors, such as the ARM Cortex M, use only about one-tenth of the power that most energy-efficient 16-bit processors used only two years ago. This leap forward in technological capabilities is apparent in the evolving market for smart watches. The first such products released in 2012 boasted 400-megahertz single processors and simple three-axis accelerometers. Now a typical smart watch will include 1-gigahertz dual-core processors and high-end, six-axis devices that combine gyroscopes and accelerometers. Meanwhile, the prices of the chip sets used in these products have declined by about 25 per cent per year over the past two years.

Increasing demand. Demand for the first generation of Internet of Things products (fitness bands, smart watches, and smart thermostats, for instance) will increase as component technologies evolve and their costs decline. A similar dynamic occurred with the rise of smartphone usage. Consumer demand for smartphones jumped from about 170 million devices sold annually just four or five years ago to more than a billion devices in 2014. The increase in orders coincided with a steep decline in the price of critical smartphone components.

Emerging standards. Over the past two years, semiconductor players have joined forces with hardware, networking, and software companies, and with a number of industry associations and academic consortiums, to develop formal and informal standards for Internet of Things applications. AT&T, Cisco, GE, IBM, and Intel, for instance, cofounded the Industrial Internet Consortium, whose primary goal is to establish interoperability standards across industrial environments so that data about fleets, machines, and facilities can be accessed and shared more reliably. Other groups have been focused on standardizing the application programming interfaces (APIs) that enable basic commands and data transfer among Internet of Things devices.

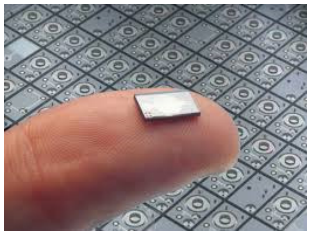
Implications for semiconductor players

Analysts have predicted that the installed base for Internet of Things devices will grow from around 10 billion connected devices today to as



many as 30 billion devices by 2020; an uptick of about 3 billion new devices per year.

A new class of components will be required to address this opportunity; system on a chip–based devices produced specifically for the Internet of Things, with optimal power and connectivity features and with sensor A new class of components will be required to address this opportunity: system on a integration. First-generation chips are already on the way, although it will probably be a few generations before chips can deliver all the functionality required. Intel, for instance, is releasing Each of these devices will require, at a minimum, a microcontroller to add intelligence to the device, one or more sensors to allow for data collection, one or more chips to allow for connectivity and data transmission, and a memory component. For semiconductor players, this represents a direct growth opportunity that goes beyond almost all other recent innovations—with the exception, perhaps, of the smartphone.a low-power system on a chip designed for smaller products in automotive and industrial environments. This chip also can be used in fitness bands and other wearable devices. Additionally, sensors based on microelectro-mechanical-systems (MEMS) technology will continue to play a significant role in enabling Internet of Things applications.



It's worth noting that semiconductor players may also be able to profit indirectly from the Internet of Things, since the data generated from billions of connected devices will need to be processed—all those "little" data must be turned into big data—and users will require greater storage capacity, spurring new demand for more servers and more memory. Building on an existing market, semiconductor companies can continue to provide the critical devices and components that are at the heart of these products.

The question, then, is no longer if the Internet of Things can provide substantial growth for semiconductor players; the real consideration is how best to capitalize on the trend. What are the critical challenges or inhibitors? What are the possible enablers for growth and adoption? Our research and discussions with semiconductor executives have helped us identify potential challenges in two critical areas—technology and ecosystem development.

The ecosystem challenges

It will be important for semiconductor companies to remember that different industries are at different levels of maturity and complexity with respect to the Internet of Things so the roles that components manufacturers can play in application development in certain industries will vary, as will the timing of growth opportunities. The market for home-automation tools, for instance, has established some common APIs, but competing standards remain. A number of application developers have already started generating monitoring products for consumers, and once standardization issues can be addressed, the market may experience significant growth rather quickly. By contrast, the markets for monitoring and control systems in factories and for beacon technologies in retail are much more fragmented and will therefore take longer to develop. In value chain, the stores, the data aggregators, the Internet service and other

partners must sort out their roles and standards of operation before beacon-technology providers can approach them with a clear customer value proposition and business model.

In these instances, semiconductor companies may want to test the waters by forming alliances with hardware companies, systems players, and customers or by finding ways to assist in developing standards. In the factory-monitoring-systems market, for instance, players are attempting to create common standards (through the Industrial Internet Consortium initiative, for example, and the Europe-only Industry 4.0 initiative), even though most of the hardware platforms are still proprietary, as are the data, which reside in legacy systems. Semiconductor players that pursue alliances and standard-setting activities may be able to play an enabling role in defining best practices in Internet of Things privacy, security, and authentication—issues that will be critical in markets, such as healthcare and wearables, that are dealing with sensitive consumer data.

Given the potential 90 per cent distribution of value to players that provide all the technologies "beyond" the silicon, there may never be a compelling enough business case for components manufacturers to develop individual chips and systems for hundreds of thousands of discrete Internet of Things industry applications. We believe semiconductor players should instead design a family of devices that are sufficiently flexible to cater to the needs of multiple industries that can be used in industrial and consumer Internet of Things applications that boast similar characteristics. Our work suggests that these devices will probably fall somewhere along a continuum of application requirements at one extreme, high-power, high-performance, application-processing Internet of Things devices, such as those embedded in smart watches, and, at the other extreme, low-cost, ultralow-power integrated sensors that support sufficient (but not excessive) functionality and autonomous device operation. To achieve this level of design flexibility and to address the opportunity properly, semiconductor players may need to rethink their approach to product and application development.

Conclusion

The challenges associated with the Internet of Things are many; semiconductor executives should consider ways to integrate new development models, process capabilities, and go-to-market strategies in their existing operations. Success will require bold moves, boards that are willing to bet on unfamiliar models and activities, and collaboration with those that are developing industry standards. But the semiconductor industry should embrace this era of innovation and reinvention. The opportunities for growth outweigh the challenges, as components manufacturers explore the creation of a new class of Internet of Things; enabled semiconductors that can cut across a wider swath of potential customers than existing components can. The sector may be on the cusp of unit growth similar to the surge it experienced with the smartphone — and perhaps an even greater jump.

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4) Financial Roundup

4 Financial Roundup

	Income $M	Latest quarter Sales $M	
Cisco	2397.0	11936.0	↗
Brocade	87.3	576.2	↗
Extreme	-13.1	147.2	→
Netgear	-40.4	353.2	↘
Avaya	3.0	1079.0	↘
Mitel	10.8	301.4	↘
A-L	€ 3,682.0	€ 278.0	↘
Juniper	-769.6	1101.6	↘

Source: Company Financials - all based on latest released quarters ended Dec except Brocade and Cisco is Jan

Recently Released Financials

Alcatel-Lucent Q414 – Sales down 6 per cent Y on Y but up 13 per cent sequentially. Geographic (previous year in brackets)

- North America 40 (40) per cent
- Asia 20 (19) per cent
- Europe 24 (28) per cent
- RoW 15 (13) per cent

Avaya Q115 – Sales were down 5 per cent Y on Y and down 4 per cent sequentially. Dave Vellequette, CFO "Networking strong"

- Americas 63 (64) per cent
- EMEA 28 (27) per cent
- Asia 9 (10) per cent

Brocade Q115 – Sales were up 2 per cent Y on Y and up 2 per cent sequentially. Brocade acquired Riverbed's SteelApp products

- Channel sales 33 (30) per cent
- International 42 (43) per cent
- OEM 67 (70) per cent

Cisco Q215 – Sales were up 7 per cent Y on Y but down 3 per cent sequentially. EMEA+7% (UK+17%, DE+12%, Sth Eur+20%)

- North America 60 (58) per cent
- Europe 26 (26) per cent
- Asia 15 (16) per cent

Extreme Q215 – Sales were flat Y on Y and down 8 per cent sequentially. Geographic split:

- Americas 48 (49) per cent
- EMEA 43 (42) per cent
- Asia 9 (10) per cent

Juniper Q414 – Sales were down 14 per cent Y on Y sales and down 2 per cent sequentially. Breakdown:

- Service Provider 68 (65) per cent
- Switching 16 (12) per cent

Mitel Q414 – Sales were down 6 per cent Y on Y but up 11 per cent sequentially.

Netgear Q414 – Sales were down 1 per cent Y on Y but flat sequentially. Segment breakdown:

- Wireless 74 (69) per cent
- Business 23 (23) per cent

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