FUJITSU

Case Study

MicroApplication: Network Element Backup for Tier 1 Service Provider

A simple, scalable solution for protecting transport network architecture

The Customer

Customer: Tier 1 service provider serving North America
Industry: Residential and business communications services
Location: USA (nationwide)
Customer base: The customer serves several million subscribers with high-speed internet, phone and TV service.

The Vision

A functionally designed, easy-to-use, automated remote database backup application for the customer's transport network elements

The Solution

NE Backup, a MicroApplication-based network element backup solution that protects configuration data from transport network failures.

The Vision

Like many service providers, this customer relied for years on a homegrown backup system, developed in-house by an engineer who is no longer available to support it. Aside from the knowledge gap resulting from the engineer's departure, the system was not intuitive, making it difficult to add new network elements (NEs). Over time, this difficulty resulted in progressively more NEs going without adequate backup protection. Tens of thousands of NEs were not being backed up at all, leaving the network and customers exposed to potential outage.

A catastrophic network event with inadequate database backup would put service delivery and customers at risk. It was taking an average of 16 hours to restore a single NE from scratch, with weeks of fallout afterwards.

Faced with vulnerability that represented enormous risk to their network infrastructure, service delivery, and consequently, their customer relationships, the service provider decided to take corrective action by engineering a new backup system. They envisioned an operationally simple, scalable solution that would protect their transport network infrastructure with comprehensive, automated configuration data backup functionality.

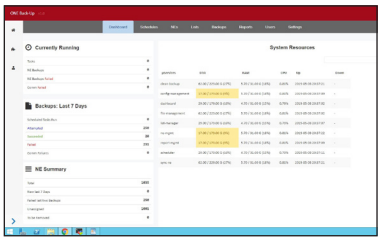
The Solution

Fujitsu collaborated with the customer to create a MicroApplication tailored for their unique needs. A MicroApplication is a collection of microservices designed to solve a specific challenge with precision accuracy, but without lengthy development times. The result was NE Backup, a full-featured backup MicroApplication that could be quickly deployed in the customer's network.

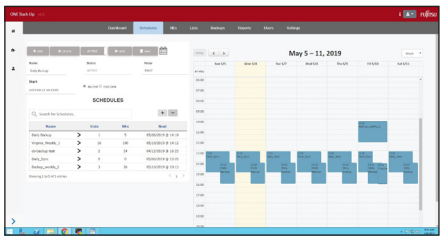
The NE Backup MicroApplication delivers critical functionality, including multivendor NE backup management, scheduling, user management, and activity reporting, all through a web-based, intuitive interface:

- **NE Backup Management:** The MicroApplication automatically synchronizes with external NE databases, eliminating the need to manage lists manually.

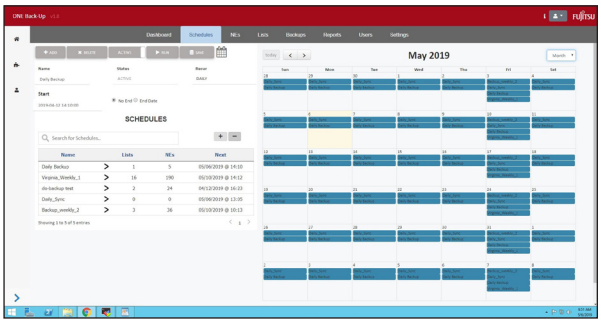
Dashboard View



Weekly Schedule View



Monthly Schedule View



- **Scheduling:** Users can select when automatic backups should occur, using a wide range of parameters such as start day and time; frequency; maximum duration and the specific NEs to be included. A maintenance window feature creates the timeframe during which backups can occur. If backups are not completed within that window, they are automatically pushed to the next available time.
- **User Management:** This function enables a range of privileges, including administrative, read/write or read-only. To ensure tracking and accountability, all operations are logged in a secure file visible only to the admin.
- **Reporting:** Users can quickly evaluate historical data from a wide selection of reports, including executed schedules, failures and/or discrepancies; lists of newly added or deleted NEs; and general audits.

The Outcome

Because MicroApplications are focused on a single use case, they deliver results faster and more economically than traditional software development. NE Backup has met the customer's objective and yielded positive results in a fraction of the time typically needed for software projects:

- Protects critical transport network infrastructure data from catastrophic failures.
- Eliminates manual interactions with backup databases.
- Simplifies operations by consolidating NE backup from several element management systems and scripting tools.
- Rapid ROI: The MicroApp was delivered through a one-time purchase, whose benefit was realized in the same fiscal year. An equivalent management system could have carried hefty annual support contracts for years to come.

Solution Summary

- Intuitive, web-based interface
- Multivendor NE backup capability
- Scalable, allowing new NEs to be added whenever needed
- Automated NE management

Why Fujitsu?

The customer selected Fujitsu to solve their NE backup problem because of our proven track record of developing MicroApplications for their company, in addition to other customers. Fujitsu has a decades-long track record of collaboration with customers to get the best performance out of their networks. This depth of experience uniquely positions us to translate use cases into targeted software applications. We harness the power of partnership to deliver the most effective solution for each customer's unique challenges. MicroApplications are based on the principles of automation, openness, scalability and interoperability, which collectively translate to cost savings, faster services deployment and improved network performance.

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